

# Navy Lodge

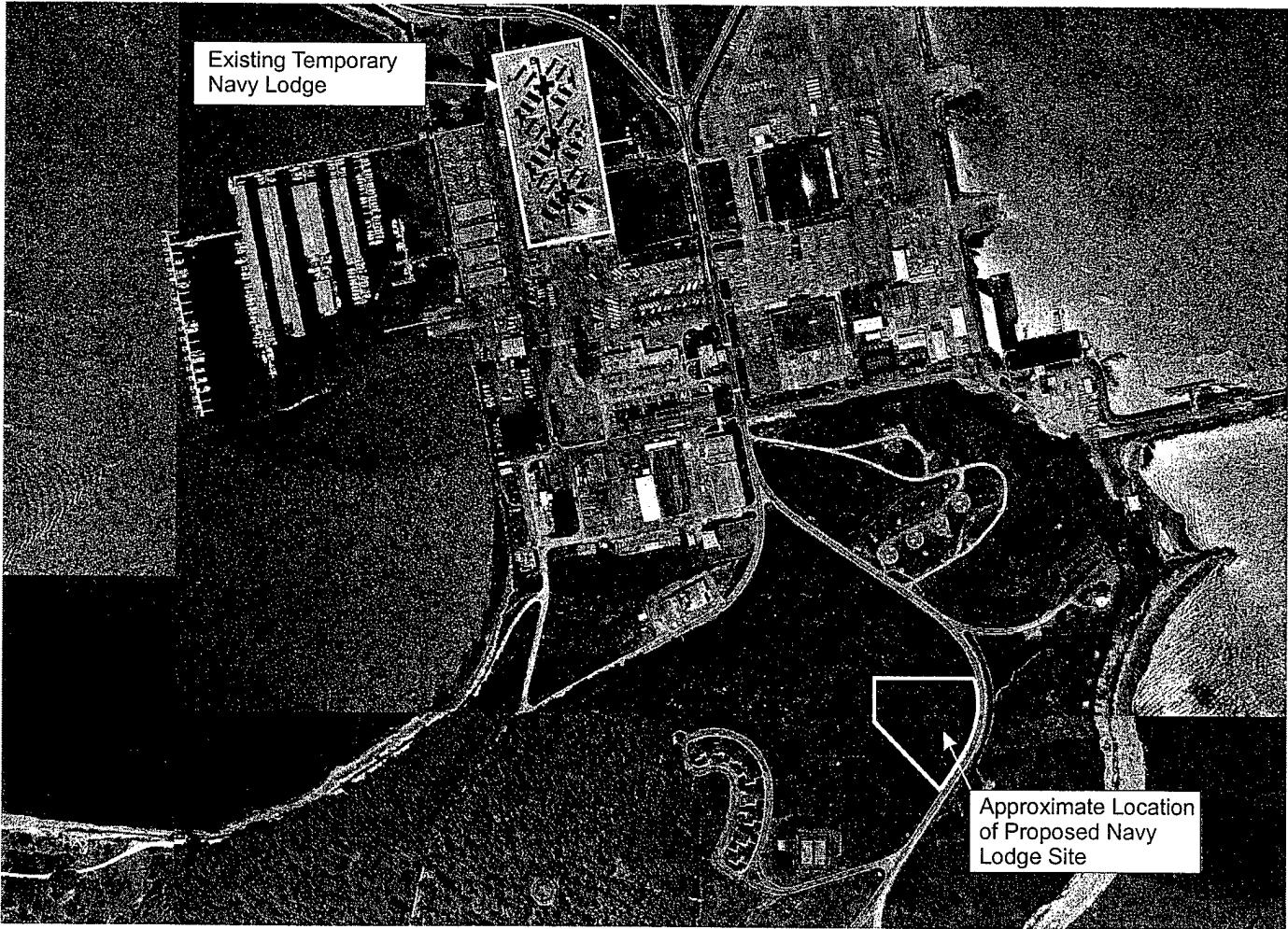
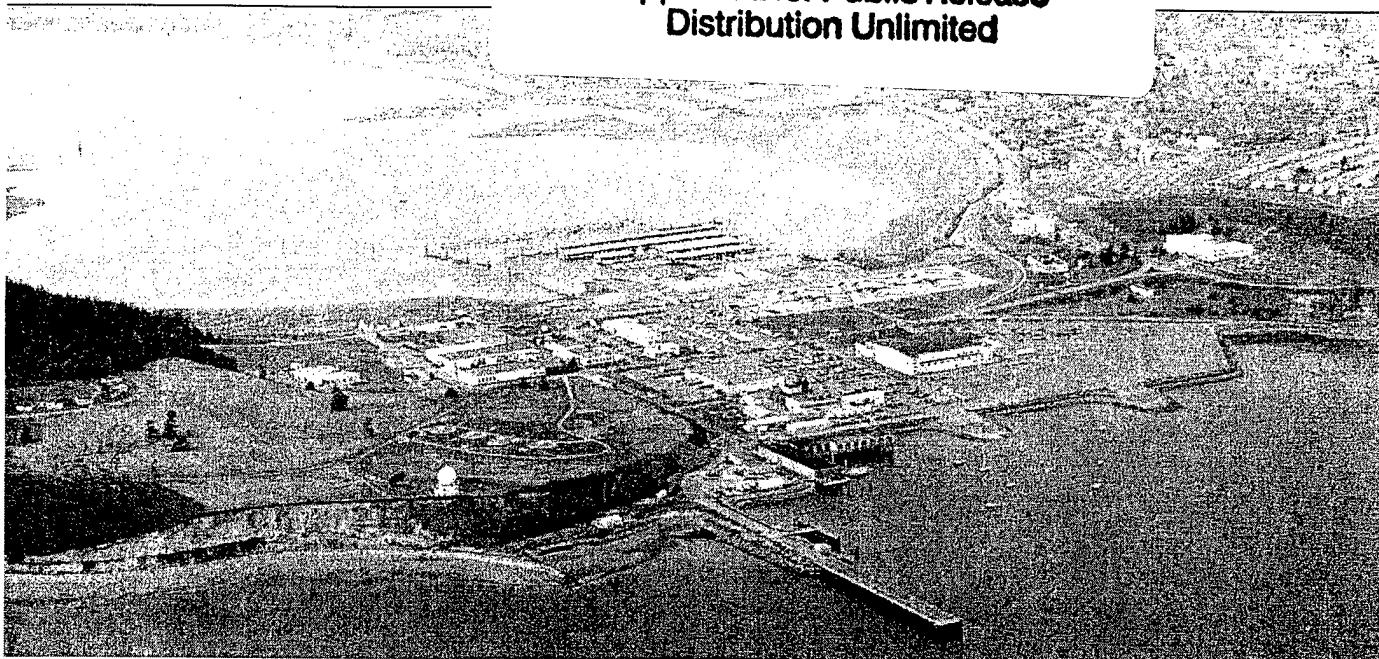
## Environmental Assessment - Final

Naval Air Station, Whidbey Island  
Oak Harbor, Washington

June 1999



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DEPARTMENT OF DEFENSE  
DEPARTMENT OF THE NAVY

FINDING OF NO SIGNIFICANT IMPACT FOR THE CONSTRUCTION AND  
OPERATION OF A NAVY LODGE AT NAVAL AIR STATION WHIDBEY ISLAND,  
ISLAND COUNTY, WASHINGTON

Pursuant to Council on Environmental Quality regulations (40 CFR Parts 1500-1508) implementing procedural provisions of the National Environmental Policy Act (NEPA), the Department of the Navy gives notice that an Environmental Assessment (EA) has been prepared and an Environmental Impact Statement (EIS) is not required for the construction and operation of a Navy Lodge at Naval Air Station, Whidbey Island (NASWI), Oak Harbor, Island County, Washington.

The proposed action is to construct and operate a new permanent Navy Lodge at Seaplane Base, NAS Whidbey Island, Oak Harbor, Washington to replace the existing temporary Navy Lodge, also at the Seaplane Base. The proposed action includes a 2-story, 50-unit Navy Lodge, with lobby, front desk, offices, housekeeping space, guest laundromat, vending area, utility rooms, playground, and landscaped grounds. A 63-stall parking lot with access to East Coral Sea Avenue would also be built. Potential future lodge expansion may include up to 22 additional units, bringing the total number of units to 72 and 21 additional parking stalls. Each Navy Lodge unit would include living, dining, and sleeping areas; kitchenette; and private bath. Upon completion of the 50-unit Navy Lodge construction, the existing Navy Lodge, consisting of 24 mobile home units on the Seaplane Base tarmac, would be sold, disposed of, and removed. Utilities servicing these units would be capped, and the Navy Exchange Command (NEXCOM) and NASWI would restore the tarmac. Construction of the proposed Navy Lodge would begin during the fall of 1999; the Navy lodge would be opened in the fall of 2000.

Three other Seaplane Base sites and one Ault Field site were considered as alternatives. These sites were evaluated and subsequently eliminated because they cannot meet all four exclusionary criteria: (1) No significant disruption of temporary Navy Lodge service at NASWI during construction, (2) Consistency with the Draft Puget Sound Regional Shore Infrastructure Plan (RSIP), (3) Provision of temporary housing priced within the Temporary Lodging Allowance (TLA) allowed during Permanent Change in Station (PCS), and (4) Provisions of adequate safety and quality of life for Navy personnel and their

families. The "no action" alternative would not construct a new Navy Lodge. This alternative was eliminated because it does not meet the demand for temporary housing for Naval personnel.

The proposed site for the new Navy Lodge is located between Crescent and Oak harbors near the City of Oak Harbor. Access to the new Navy Lodge will be provided from East Coral Sea Avenue. The proposed action would convert approximately 2.75 acres of open grassland for the development of the Navy Lodge, access driveway and parking lot. This conversion will require a change in the land use designation for the proposed site from Open Space to Recreation, Community Support or other appropriate land use designation during the next update of the NASWI Master Plan. The proposed action would not result in significant impacts to the quality of the human environment. The proposed action will adhere to both Land Use Adjacency and Land Use Compatibility policies in the RSIP.

The project area is within the Island County area of the Northwest Air Pollution Authority and is currently designated as "attainment" for all criteria air pollutants. Construction activities associated with the proposed project would generate locally elevated levels of pollutants, primarily suspended particulate matter, due to operation of heavy-duty construction equipment, fill/haul truck trips and construction worker commute trips. These impacts are localized, temporary, and will be mitigated by applying dust control measures. Air emissions from both stationary and mobile sources will have a less-than-significant impact on the regional air quality.

The proposed action will have a net increase of 400 daily trips, and all intersections in the project vicinity will operate at the same level of service. The proposed action will have no significant traffic impacts on the surrounding arterial roadway system or key intersections in the project vicinity. To mitigate potential safety hazards NEXCOM and NASWI will construct a 5-foot wide sidewalk along East Coral Sea Avenue between the proposed site and the Navy Exchange/Commissary area prior to completion of the proposed action. This sidewalk will provide safe pedestrian access for adults and children to the nearby personnel support facilities.

The proposed action will result in a temporary increase in noise levels associated with the construction activities and removal of the existing 24 mobile units. The Navy will minimize noise emissions during construction in compliance with the Navy Environmental and Natural Resources Manual (OPNAVINST 5090.1B)

that requires maximum use of low noise emission products, as certified by EPA, for all Navy-related operations, as well as compliance with other Federal and State regulations pertaining to construction related noise generation.

The proposed Navy Lodge is not located in an area deemed to have a high probability to contain archeological resources. The proposed site is approximately 300 feet from the nearest National Register of Historic Places (NRHP) eligible resources-Building 27 and Seaplane Base Historic District. The Navy has consulted with the Washington State Office of Archeology and Historic Preservation (OAHP) for review of the proposed action. The OAHP determined that the proposed action would have "no adverse effect" on the NRHP-eligible Seaplane Base Historic District.

No impacts to recreational resources will occur from the proposed action. No impacts to either water quality or geology/soils resources will occur. The US Fish and Wildlife Service has indicated that the proposed action is not likely to adversely affect the Bald Eagle as long as mitigation measures identified in the Bald Eagle Management Plan are implemented during the project. No impacts on any other threatened and endangered species will occur from the proposed action.

No significant environmental health hazardous will occur from the proposed action.

There will not be any disproportionately high and adverse human health or environmental effects from the action on minority and low-income populations.

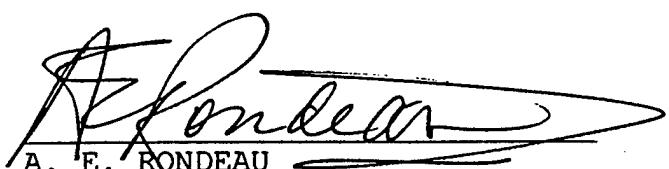
The EA reviewed cumulative impacts, which could result from the incremental impact of the Proposed Action when added to other past, present, or reasonably foreseeable future actions. Review of the potential environmental impacts of this project, combined with those associated with implementation of other proposed actions, indicated that no significant cumulative impacts will occur.

Based on information gathered during preparation of the EA, the Department of the Navy finds that implementation of the Proposed Action will not have a significant impact on the quality of the human or natural environment or generate significant controversy.

The EA prepared by the Navy addressing this action is on file and interested parties may obtain a copy from: Commanding Officer, Naval Air Station, Whidbey Island, Oak Harbor, Washington 98278-5000 (Attention: Mr. Steve Pennix, Code N4461); telephone (360) 257-8873.

22 Oct 99

Date



A. E. RONDEAU

Captain, U.S. Navy  
Deputy Chief of Staff for  
Shore Installation Management,  
U.S. Pacific Fleet

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# **Navy Lodge**

## **Environmental Assessment**

### **Final**

**Prepared for:**

**NAVAL AIR STATION, WHIDBEY ISLAND  
SEAPLANE BASE  
OAK HARBOR, WA  
DEPARTMENT OF THE NAVY**

**Prepared by:**

**EDAW, Inc.  
Seattle, WA**

**Under Contract by:**

**Engineering Field Activity, Northwest  
Naval Facilities Engineering Command  
19917 7th Avenue Northeast  
Poulsbo, Washington 98370-7570  
(360) 396-0016**

**Point of Contact: Kelly Hall (Code 184KH)/Kimberly Kler (Code 232 KK)**

**15 June, 1999**

**19991129 081**

## ABSTRACT

The Department of the Navy (Navy) has prepared this Environmental Assessment (EA) to evaluate the potential environmental effects associated with the proposed construction and operation of a new Navy Exchange Command (NEXCOM) Navy Lodge at Seaplane Base, Naval Air Station, Whidbey Island (NASWI), Island County, Washington. The proposed Navy Lodge is needed to accommodate increased demand at the NASWI for Navy Lodge facilities. Existing facilities at NASWI have an inadequate number of units to meet current and projected needs and were originally built as temporary facilities only.

The Proposed Action would include constructing and operating a 2-story, 50-unit Navy Lodge, with lobby, front desk, offices, housekeeping space, guest laundromat, vending area, utility rooms, playground, and landscaped grounds. A 63-stall parking lot with access to East Coral Sea Avenue would also be built. Potential future lodge expansion may include up to 22 additional units, bringing the total number of units to 72 and 21 additional parking stalls. Each Navy Lodge unit would include living, dining, and sleeping areas; kitchenette; and private bath. Upon completion of the 50-unit Navy Lodge construction, the existing Navy Lodge, consisting of 24 mobile home units on the Seaplane Base tarmac, would be sold and removed, utilities servicing these units would be capped, and the tarmac would be restored by NEXCOM and NASWI. Construction of the proposed Navy Lodge would begin during the fall of 1999; the Navy Lodge would be opened in the fall of 2000.

This EA addresses the potential impacts of the Proposed Action consisting of constructing and operating a new Navy Lodge facility up to 72 units approximately 0.4 mile (0.6 km) south of the main Seaplane Base tarmac, as well as a No Action Alternative. Under the No Action Alternative, the existing temporary Navy Lodge would continue to operate. The Navy also considered options for three other potential locations for the proposed Navy Lodge: (1) at the site of the existing temporary Navy Lodge on the Seaplane Base tarmac, (2) at a site immediately adjacent to the existing Navy Lodge, and (3) at an undetermined site at Ault Field. None of these other options meet the short-term or long-term lodging needs of the Navy. As a result, they were not considered in the detailed analysis of this EA.

Because the proposed Navy Lodge would be visible from a proposed Historic District at the Seaplane Base, the Navy will take appropriate measures to address potential effects on the Historic District. The Navy will locate the proposed Navy Lodge away from the main portion of the Historic District and will design the facility to be consistent with the surrounding WWII-era architectural style. Principal areas of concern addressed in this EA include potential effects to historical resources, traffic, and visual resources.

The Proposed Action analyzed in this EA was found to have no significant environmental impacts as long as the proposed mitigation measures are implemented (see Section 2.4). As a result, a Finding of No Significant Impact (FONSI) is recommended and the preparation of an Environmental Impact Statement (EIS) is not required.

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## ACRONYMS AND ABBREVIATIONS

AICUZ	Air Installation Compatible Use Zone
BEMP	Bald Eagle Management Plan
BMPs	Best Management Practices
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CINCPACFLT	Commander-in-Chief Pacific Fleet
cm	centimeter
CO	carbon monoxide
dB	decibels
dBA	decibels-A weighted
DD	Defense Department
DoD	Department of Defense
EA	Environmental Assessment
ECT	Electronic Combat Training
EFA	Engineering Field Activity
EIS	Environmental Impact Statement
EOD	Explosive Ordnance Disposal
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FONSI	Finding of No Significant Impact
FR	Federal Register
FY	Fiscal Year
gpm	gallons per minute
ha	hectare
HARP	Historical and Archaeological Protection
HERP	Hazards from Electromagnetic Radiation to Personnel
ICGWMP	Island County Ground Water Management Program
INRMP	Integrated Natural Resources Management Plan
ITE	Institute of Transportation Engineers
km	kilometer
l	liter
Ldn	day-night sound level
LOS	level of service
m	meter
m.e.v.	million entering vehicles
mph	miles per hour
MTMC	Military Traffic Management Command
MVET	Motor Vehicle Excise Tax
MWR	Morale, Welfare, and Recreation

## ACRONYMS AND ABBREVIATIONS (continued)

NAAQS	National Ambient Air Quality Standards
NASWI	Naval Air Station, Whidbey Island
Navy	Department of the Navy
NEPA	National Environmental Policy Act
NEXCOM	Navy Exchange Command
NHPA	National Historic Preservation Act
NO <sub>2</sub>	nitrogen dioxide
NO <sub>x</sub>	oxides of nitrogen
NRHP	National Register of Historic Places, or National Register
NWI	National Wetlands Inventory
NWAPA	Northwest Air Pollution Authority
O <sub>3</sub>	ozone
OAHP	Office of Archaeology and Historic Preservation
OS	Open Space (land use designation)
Pb	lead
PCS	Permanent Change in Station
PL	Public Law
PM	particulate matter
ppm	parts per million
PS	Public Works, Supply (land use designation)
RC	Recreation, Community Support (land use designation)
ROG	Reactive Organic Gases
RSIP	Regional Shore Infrastructure Plan
SHPO	State Historic Preservation Officer
SIG	signal
SO <sub>x</sub>	sulfur dioxides
SR	State Route
TDY	Temporary Duty
TLA	Temporary Lodging Allowance
TSP	total suspended particulates
TWSC	two-way stop controlled
USC	U.S. Code
USFWS	U. S. Fish and Wildlife Service
VOC	volatile organic compound
WAC	Washington Administrative Code
WDNR	Washington Department of Natural Resources
WDFW	Washington Department of Fish and Wildlife
WDOE	Washington State Department of Ecology
WSDOT	Washington State Department of Transportation
WWII	World War II
µg/m <sup>3</sup>	micrograms per cubic meter

## 1.0 INTRODUCTION

The Department of the Navy (Navy) has prepared this Environmental Assessment (EA) to evaluate potential environmental effects associated with the proposed construction and operation of a Navy Exchange Command (NEXCOM) Navy Lodge at the Seaplane Base, Naval Air Station, Whidbey Island (NASWI). The potential environmental effects are addressed pursuant to the requirements of the National Environmental Policy Act (NEPA) and subsequent implementing regulations issued by the Council on Environmental Quality (CEQ) (40 CFR 1500-1508).

Navy Lodges, found in association with Navy facilities worldwide, function as a typical roadside motel or travel lodge, although rooms are available only to authorized persons. Navy Lodges are operated as a self-supporting branch of the NEXCOM system which operates Navy Lodges, Navy Exchanges, and Commissaries for active-duty military personnel, dependents, military retirees, and Department of Defense (DoD) civilians.

According to the *Navy Facility Planning Criteria, NAVFAC Document P-80*, which defines and guides development of Naval facilities, a "Navy Lodge" (also known as a Temporary Lodging Facility, Category Code 740.20) is defined as follows:

"These facilities are temporary living accommodations which normally are rented for a service charge for overnight or short term use to authorized personnel such as: official military or civilian visitors to the installation, and visitors to the installation personnel, transient personnel or families awaiting assignment to quarters. Where such facilities are authorized for new construction, they shall be of motel type with bath and kitchenettes, where required."

The proposed Navy Lodge site is located on NASWI property in a vacant area designated as Open Space in the NASWI Master Plan (Department of the Navy 1988) located between Oak and Crescent harbors near the City of Oak Harbor, Washington. The Proposed Action would include completion of a 2-story, 50-unit lodge with lobby, front desk, offices, housekeeping space, guest laundromat, vending area, and utility rooms. Each unit would include living, dining, and sleeping areas; kitchenette; and a private bath. Landscaping a playground, picnic facilities, and construction of an 63-stall parking lot would also be included. A potential future addition would expand the lodge to a total of 72 units and 84 parking stalls at an undetermined time in the future.

The proposed Navy Lodge project would also include removal of the existing temporary Navy Lodge on the Seaplane Base tarmac. The existing Navy Lodge is a temporary facility that has provided this service at the Seaplane Base since 1995. The existing facility includes 23 fully furnished mobile home units, one mobile home unit that is used for the lodge office, landscaping, 3 picnic tables, playground facilities, and paved parking stalls. Each mobile home unit has living, dining, and sleeping areas; a kitchenette; and a private bathroom and is serviced by electricity, gas heat, water, and cable television.

This EA includes six sections. This section (Section 1) provides background information on authority and jurisdiction and the purpose and need of the Proposed Action. Section 2

includes: (1) a description of the Proposed Action and the No Action Alternative, (2) a discussion of the various Navy Lodge siting options considered but eliminated from further consideration, (3) a summary of the environmental effects of the two alternatives considered in detail, and (4) a summary of mitigation measures for the Proposed Action if implemented. Section 3 describes the affected environment, environmental consequences, and mitigation measures for resources potentially affected by the Proposed Action and No Action Alternative. The cumulative and long-term effects are addressed in Section 4. References are provided in Section 5, while the list of preparers and distribution list are presented in Section 6.

## 1.1 AUTHORITY AND JURISDICTION

This EA was prepared in compliance with the statutory requirements of NEPA, as amended by Public Law (PL) 91-190, 42 USC 4347. Conformance with this law is being carried out under the provisions of the Navy's *Environmental and Natural Resources Program Manual* (OPNAVINST - 5090.1B, September 1, 1998; Navy 1998c). As stated in OPNAVINST - 5090. 1B - Chapter 2-4.3.1:

"An EA is an analysis of the potential environmental impact of a proposed action. When the military does not know before-hand whether or not the proposed action will significantly affect the human environment or be controversial with respect to environmental effects, an EA is prepared. If on the basis of the EA, it is determined that the proposed action will not significantly impact the environment, a Finding of No Significant Impact (FONSI) will be prepared. Otherwise an Environmental Impact Statement (EIS) will be prepared."

The Navy must evaluate the Proposed Action (see Section 2.1) to determine the significance of potential effects and the adequacy of proposed mitigation measures. Based on this EA, the Navy has concluded that a FONSI is appropriate and that preparation of an EIS is not necessary. Public notification of the FONSI will consist of: (1) local newspaper publication of a summary of the FONSI; and (2) direct mailing of the full FONSI and the completed EA to interested parties such as regulatory/resource agencies, libraries, elected officials, and others identified during preparation of the EA. The FONSI notice shall run in consecutive Wednesday, Saturday, and Wednesday issues of the "Public Notices" section of the *Whidbey News-Times*, a local newspaper with distribution in the area of the Proposed Action.

## 1.2 PURPOSE AND NEED

NEXCOM has immediate and long-term needs for providing temporary housing at NASWI. The purpose of the Proposed Action is to meet these needs through construction of a permanent Navy Lodge. The Navy's short-term need is to construct a 2-story, 50-unit Navy Lodge with support facilities and an 63-stall parking lot. The proposed Navy Lodge would provide temporary housing for Navy personnel and their families who are in transit and retired DoD personnel who are visiting the area. Existing temporary Navy Lodge units are occupied for several days to several weeks by newly arriving service personnel undergoing a Permanent Change in Station (PCS). These personnel use the Navy Lodge on an interim basis while looking for permanent accommodations in the area. During 1997, the average Navy Lodge occupancy exceeded 92 percent. Patrons are currently turned away at an average of 257 persons per month (FY99 MILCON Construction Date 1998 [Department of the Navy 1998a]). The 6 commercial lodging facilities in the Oak Harbor vicinity provide approximately 304 lodging units, of which only 54 have kitchen facilities which is a requirement of Navy temporary housing. According to NASWI Navy Lodge administrators, only 20 of the commercial units with kitchens are priced consistent with DoD guidelines for PCS transfers (DoD Financial Management Regulations, Vol. 9, Travel Policy and Procedures, Dec. 1996. DoD 7000.14-R). The average summer government rate (double occupancy) at the 6 commercial facilities is \$61/day + 8.0% tax, and most charge \$5-10 extra for additional people (Appendix A – NASWI Lodge 1999 Market Analysis). This is in comparison to the \$50/day charged by the Navy Lodge. All of these facilities are between 1.2 and 2.6 miles (1.9 and 4.2 km) from the existing lodge. Furthermore, during the May-October tourist season, suitable commercial units are largely unavailable (pers. comm., Eller, 1998). NASWI is projected to generally continue at the current level of operation for the foreseeable future. Therefore, there is a long-term requirement to provide temporary lodging facilities to accommodate approximately 134 PCS family and 75 unaccompanied transfers that occur each month. This translates into a requirement of 44 units to support PCS transfers with another 13 units for Temporary Duty (TDY) and leisure travel.

Based on existing occupancy and turn-away data, the Proposed Action would meet current temporary housing demand. The proposed Navy Lodge would also indirectly provide additional revenue for nearby Morale, Welfare, and Recreation (MWR) programs at NASWI. The Navy's long-term needs may require expansion of the proposed Navy Lodge capacity to a total of 72 units and 84 parking stalls at some time in the future to meet future growth in temporary housing demand at NASWI.

Construction of the proposed Navy Lodge at the Seaplane Base is a short-term need of the Navy. Without this proposed facility, there will be a further degradation of the quality of life for Navy personnel and families due to economic hardship during PCS transfer as many are required to find temporary off-Station housing at greater expense and/or distance from NASWI. Local access to the Navy Exchange, Commissary, and other personnel support facilities is critical for junior personnel, many of whom lack transportation for themselves or their families, particularly from off-Station commercial lodging.

**Navy Lodge  
Seaplane Base, NASWI  
Department of the Navy**

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Due to the continued need for temporary housing, the proposed Navy Lodge must be located so that the existing Navy Lodge can house patrons during the 10- to 12-month construction time period. No other Navy properties on the Seaplane Base or at nearby Ault Field are desirable for constructing the proposed permanent Navy Lodge, except for the proposed hilltop site.

In addition, the Navy Lodge will provide an additional source of revenue to MWR programs at the Seaplane Base MWR Marina, as well as other MWR programs.

## 2.0 PROPOSED ACTION AND ALTERNATIVES

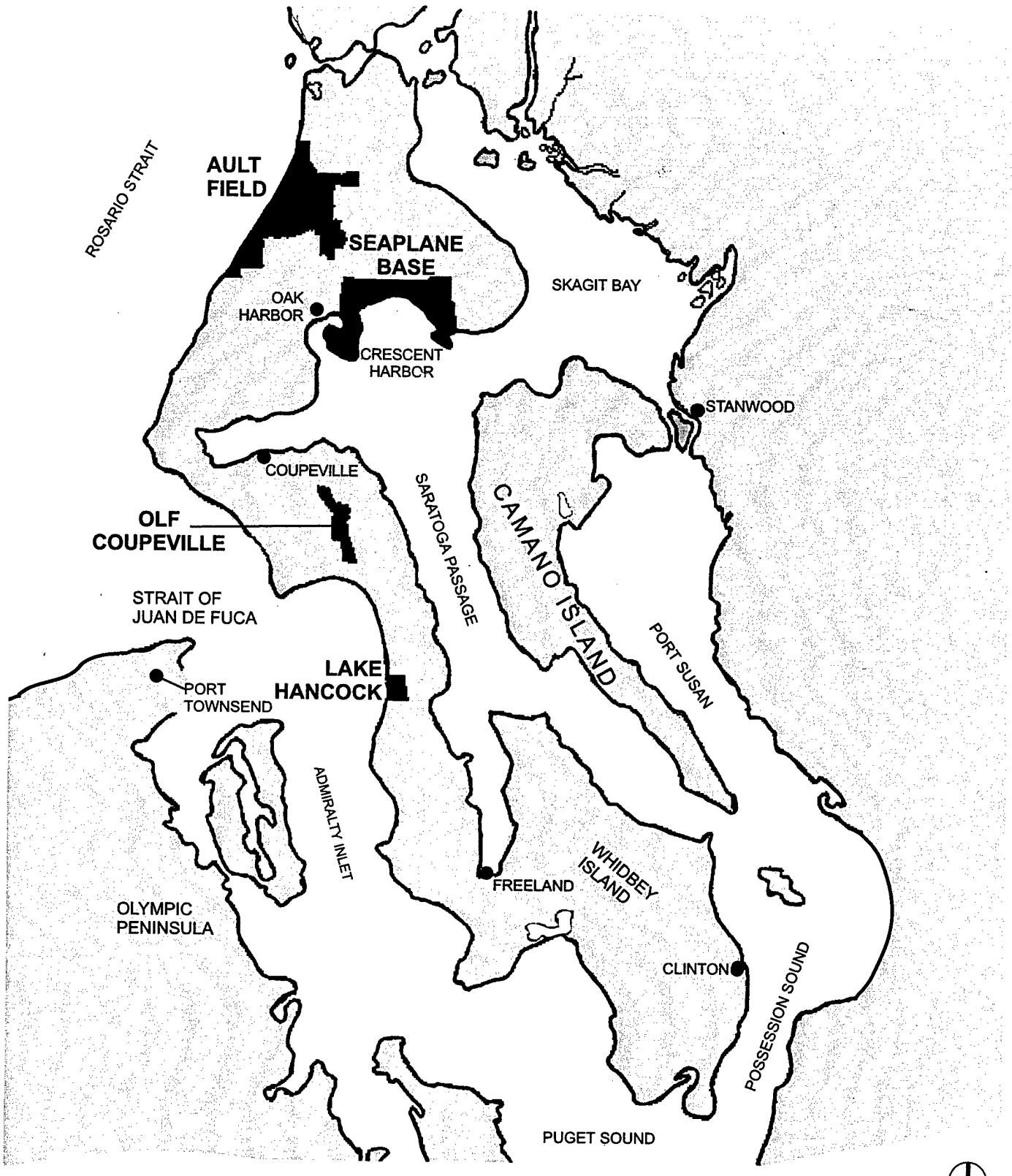
The following section describes the Navy's Proposed Action and alternatives evaluated in this EA. NEPA requires that the effects of the Proposed Action be evaluated for a reasonable range of alternatives and that these "action" alternatives be measured against an "existing condition" or No Action Alternative.

### 2.1 DESCRIPTION OF PROPOSED ACTION

The Navy proposes to construct and operate a new permanent Navy Lodge at the Seaplane Base, NASWI, Island County, Washington (Figures 2.1-1 through 2.1-3) to replace the existing temporary Navy Lodge, also at the Seaplane Base. The proposed construction site is located between Crescent and Oak harbors near the City of Oak Harbor. Access to the proposed Navy Lodge would be provided from East Coral Sea Avenue. The Proposed Action would include completion of a 2-story, 50-unit lodge with lobby, front desk, offices, housekeeping space, guest laundromat, vending area, utility rooms, and picnic and playground facilities. Each unit would include living, dining, and sleeping areas; kitchenette; and a private bath. Landscaping and construction of an 63-stall parking lot would also be included. A potential future addition, if implemented, would expand the proposed Navy Lodge up to a total of 72 units and 84 parking stalls at an undetermined time in the future. Although no detailed site plan is currently available, the proposed Navy Lodge and parking area would occupy a total of approximately 2.75 acres (1.1 ha) (300 x 400 feet [91 x 122 m]). All utilities necessary for the proposed Navy Lodge are available in the immediate area. No wetlands or surface waters would be affected by the Proposed Action and no stormwater detention structures would be required.

Construction would take an estimated 10 to 12 months beginning in the fall of 1999; the proposed Navy Lodge would open to patrons in the fall of 2000. During the construction period, the existing Navy Lodge on the Seaplane Base tarmac would remain open. Upon completion of construction, NEXCOM and NASWI Public Works Department would remove the 24 existing mobile home units and remove or safely cap utilities. The new Navy Lodge would continue to be operated by NEXCOM for use by Navy and DoD active-duty military personnel, dependents, military retirees, and DoD civilians.

Since the proposed Navy Lodge would be visible from many locations within the proposed Seaplane Base Historic District (Historic District), the Washington State Historic Preservation Officer (SHPO) has reviewed and provided a "no adverse effect determination" for the proposed action (letter from Washington OAHP, 1999, Appendix B).



Source: Department of the Navy 1988

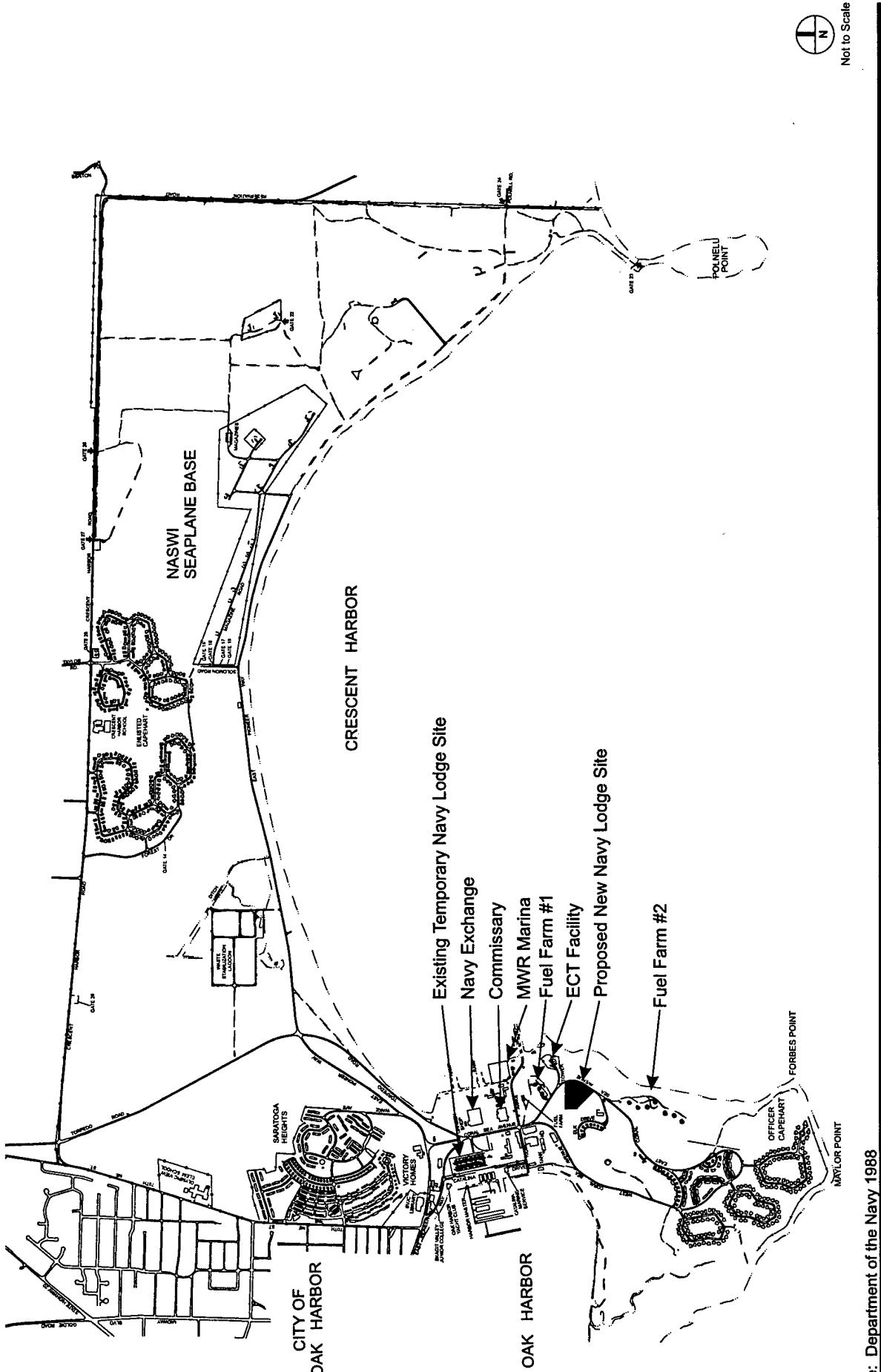
N

Not to Scale

Environmental Assessment  
for Navy Lodge  
Seaplane Base, NASWI

NASWI Facility Locations  
on Whidbey Island

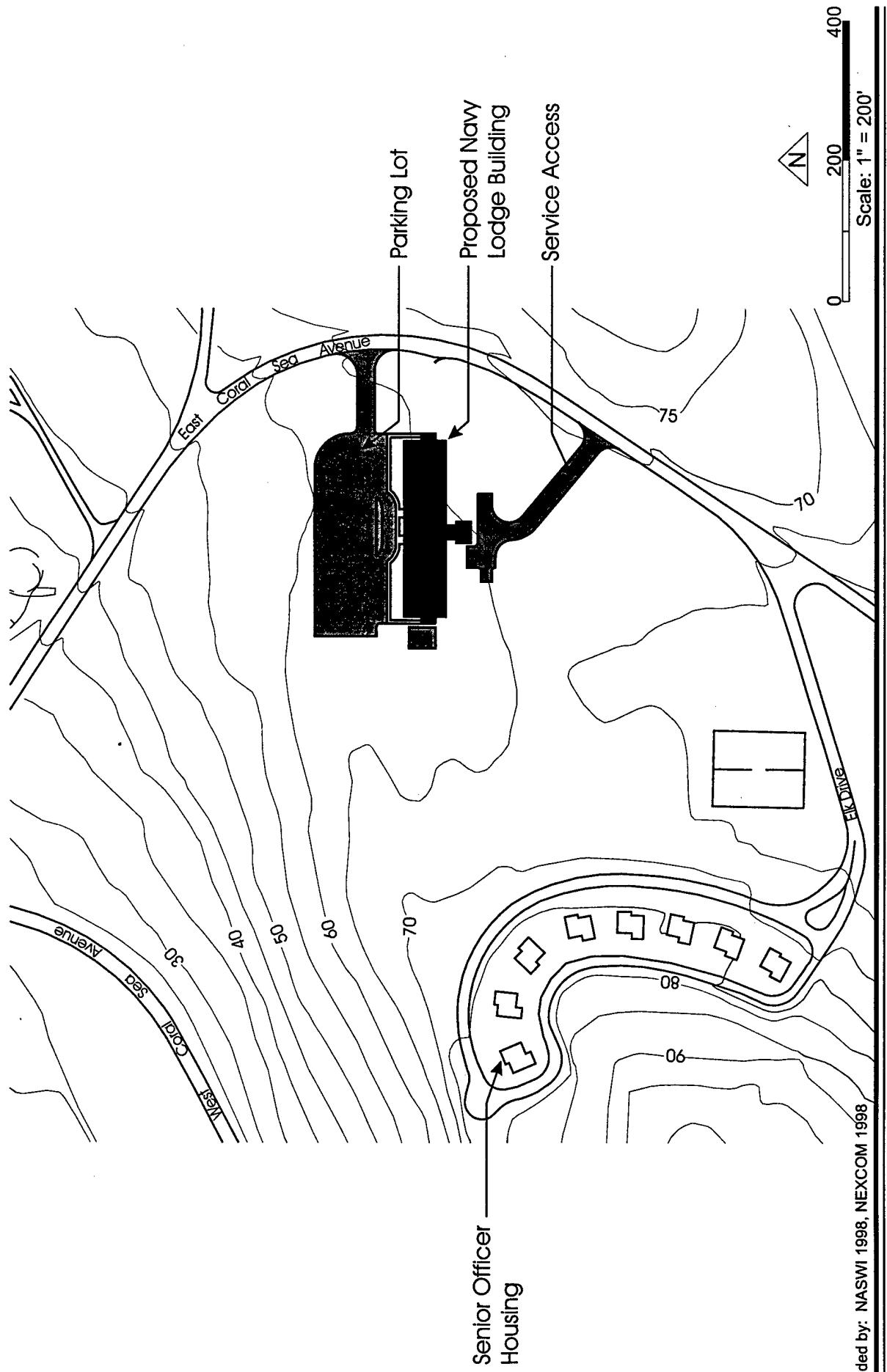
Figure 2.1-1



Source: Department of the Navy 1988  
Environmental Assessment  
for Navy Lodge  
Seaplane Base, NASWI

## Vicinity Map

Figure 2.1-2



Provided by: NASWI 1998, NEXCOM 1998

Environmental Assessment  
for Navy Lodge  
Seaplane Base, NASWI

**Proposed Preliminary  
Navy Lodge Site Plan**

Figure 2.1-3

## **2.2 DESCRIPTION OF ALTERNATIVES IN THE EA**

This EA evaluates the Proposed Action, as well as a No Action Alternative as required by NEPA. The Navy considered and selected the Proposed Action from a total of four potential Navy Lodge siting options. Of these options, only Option 4 - the Proposed Action - meets the Navy's purpose and need. The Proposed Action and the No Action Alternative are discussed in Section 2.2.1 and 2.2.2 below. An evaluation of the three Navy Lodge options eliminated from detailed analysis in this EA is presented in Section 2.3.

### **2.2.1 Proposed Action**

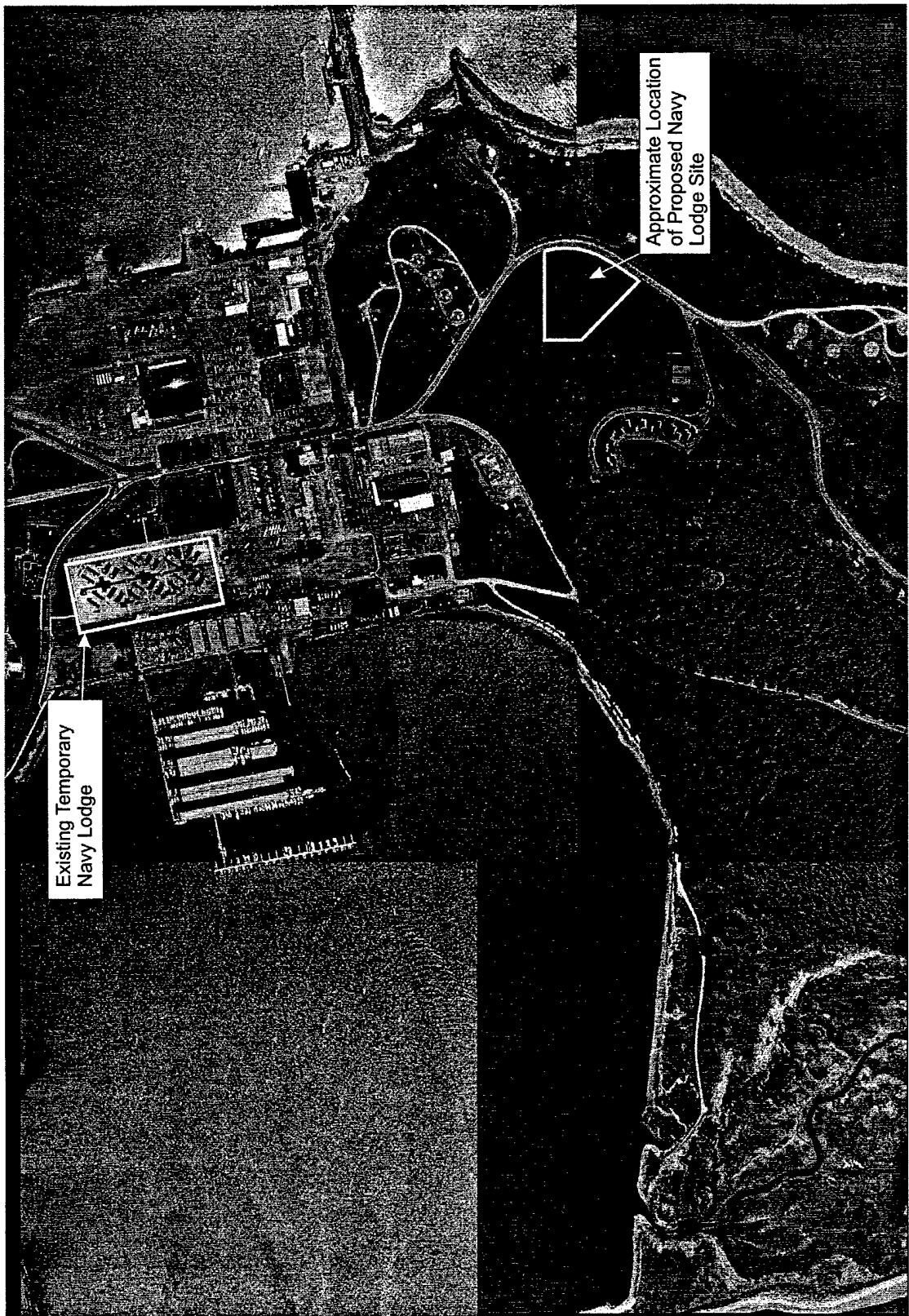
The Proposed Action at NASWI would begin in fall 1999 and would include: (1) construction and operation of a 2-story, 50-unit Navy Lodge with playground and picnicking facilities at the Seaplane Base; (2) construction of an 63-stall parking lot and service access area; and (3) sale and removal of the 24 existing mobile home units currently being used as the temporary Navy Lodge and restoration of the Seaplane Base tarmac after the proposed new Navy Lodge is opened in the fall of 2000 (Figure 2.2-1). Potential future expansion, if implemented, would involve constructing and operating up to 22 additional new units (for a total of 72 units) and 21 additional parking stalls at an unspecified time in the future. Once operational, the proposed units would be available for temporary housing by active-duty military personnel, dependents, military retirees, and DoD civilians. The new Navy Lodge would continue to be operated by NEXCOM.

### **2.2.2 No Action Alternative**

As required by NEPA, the No Action Alternative is considered in this EA. The No Action Alternative would not implement the Proposed Action at the Seaplane Base. Under this alternative, the 24 temporary mobile home units located on the Seaplane Base tarmac would continue to be operated by NEXCOM as a Navy Lodge.

The No Action Alternative would result in: (1) not meeting the demand for temporary housing for Naval personnel; (2) continued degradation of quality of life for personnel and their families using the temporary Navy Lodge facility or the more distant and expensive commercial off-Station motels; (3) no provision for additional operating revenue for MWR programs at NASWI, such as the MWR Marina; and (4) no removal of the 24 existing Navy Lodge mobile home units which reduce the quality of the historic character of the adjacent proposed Historic District.

Under this alternative, transient Navy personnel would be required to pay going market rates for motel rooms. The six local commercial facilities have a total of just over 300 rooms, of which only about 54 have kitchen facilities. Furthermore, only about 20 of the kitchen units are priced in accordance with PCS transfer guidelines (DoD Financial Management Regulations, Vol. 9, Travel Policy and Procedures, Dec. 1996. DoD



Provided by NASWI

Environmental Assessment  
for Navy Lodge  
Seaplane Base, NASWI

Aerial Photo - Existing Navy Lodge and  
Proposed Navy Lodge Site

Figure 2.2-1

7000.14-R). Navy policy is to provide temporary quarters that meet specific criteria. Among these criteria is the specification that rooms include kitchens so that families can cook and eat together. (*Navy Facility Planning Criteria, NAVFAC Document P-80*).

Requiring personnel to use commercial units without kitchens would cause them to eat in restaurants and incur higher food costs while in transit. Higher food costs may result in economic hardship for lower-income personnel and their families. The No Action Alternative would also result in the continued additional cost burden to Navy personnel and their families because Navy Lodges typically offer a substantial discount compared to commercial motels.

## **2.3 OPTIONS ELIMINATED FROM FURTHER ANALYSIS IN THE EA**

The Navy considered four siting options for the proposed Navy Lodge, including: (1) closing the existing Navy Lodge and constructing a new facility at the same location on the Seaplane Base tarmac, (2) constructing a new facility immediately adjacent to the existing Navy Lodge on a site now occupied by Earth Day Park and a NASWI/City of Oak Harbor ballfield, (3) constructing a new facility at an undetermined location at Ault Field, and (4) constructing a new lodge at another location at the Seaplane Base (the Proposed Action). These options considered different operational solutions and resource concerns. These four options are assessed in Section 2.3.2 using evaluation criteria identified in Section 2.3.1.

### **2.3.1 Evaluation Criteria**

Twelve criteria were used in this EA to assess the four Navy Lodge siting options. The 12 criteria are based primarily on the Navy's current purpose and need and include two types: exclusionary and evaluative. All exclusionary criteria must be met for a Navy Lodge option to be considered as a NEPA alternative in this EA. Evaluative criteria for the Navy Lodge options may be used to compare one NEPA alternative to another, but not to exclude an option. The more evaluative criteria that are met, the more favorable the option. Four exclusionary criteria and eight evaluative criteria are described below:

#### **Exclusionary Criteria**

- No significant disruption of temporary NEXCOM lodging service at NASWI during construction.
- Consistency with the Draft Puget Sound Regional Shore Infrastructure Plan (Draft RSIP), which is a framework developed under the direction of Commander-in-Chief Pacific Fleet (CINCPACFLT) to increase efficiencies and reduce costs in infrastructure at shore installations and integrate decision-making for military construction projects.
- Provision of temporary housing priced within the Temporary Lodging Allowance (TLA) allowed during a PCS move.

- Provision of adequate safety and quality of life for Navy personnel and their families.

#### Evaluative Criteria

- Maximize pedestrian access for DoD personnel and their families to the Navy Exchange, Commissary, and other support facilities located at the Seaplane Base.
- Minimize travel time to places of employment at NASWI.
- Minimize cost of acquisition to the Navy.
- Maximize Navy Lodge-generated revenue for support of MWR programs at NASWI, such as the MWR Marina.
- Minimize environmental effects.
- Minimize effects on the proposed Seaplane Base Historic District.
- Minimize impacts to recreation facilities.
- Minimize loss of open space.

#### **2.3.2 Evaluation of Potential Navy Lodge Siting Options**

The four Navy Lodge options were evaluated using the four exclusionary and eight evaluative criteria previously listed. The results of this evaluation are summarized in Table 2.3-1. Options were evaluated against each criterion, with scores notated by the following: "yes," "partial," and "no." Results of the evaluation are summarized below.

Option 1: Closing the Existing Navy Lodge and Constructing a New Navy Lodge at the Same Location on the Seaplane Base Tarmac - This option would result in a 10- to 12-month period when no on-Station temporary housing would be available for PCS transfers. While ultimately providing a new Navy Lodge facility, the disruption of service is unacceptable because DoD personnel would be required to find lodging in the local community where there is already insufficient capacity during the summer months, or would be required to go off the island for lodging. Construction would require removing additional tarmac concrete and relocating buried utilities in the area. It would not, however, cause any additional loss of open space. In summary, Option 1 does not meet all of the Navy's exclusionary criteria and meets only six of the eight evaluative criteria (Table 2.3-1). Therefore, Option 1 does not meet the Navy's purpose and need and was dropped from further detailed consideration as a NEPA alternative in this EA.

Option 2: Constructing a New Navy Lodge Immediately Adjacent to the Existing Navy Lodge - This option would allow the existing Navy Lodge to remain open during construction. However, this option would increase adverse impacts to the proposed Historic District since the new Navy Lodge would be immediately adjacent to the proposed Historic District boundary. Eliminating Earth Day Park and a ballfield would result in a permanent loss of recreational opportunities for Navy personnel, their families, and City of Oak Harbor residents. Locating the proposed Navy Lodge at this site would

**Table 2.3-1: Evaluation of Navy Lodge Siting Options at NASWI Using Exclusionary and Evaluative Criteria.**

CRITERIA	NAVY LODGE SITING OPTIONS CONSIDERED			
	Option 1: Closing the existing Navy Lodge and constructing a new Navy Lodge at the same location on the Seaplane Base tarmac	Option 2: Constructing a new Navy Lodge immediately adjacent to the existing Navy Lodge	Option 3: Constructing a new Navy Lodge at Ault Field (site undetermined)	Option 4: Constructing a new Navy Lodge at another location at the Seaplane Base (the Proposed Action)
<b>Exclusionary</b>				
No Significant disruption of existing NEXCOM lodging service at NASWI during construction	No	Partial	Yes	Yes
Consistency with Draft Regional Shore Infrastructure Plan (RSIP)	Yes	Yes	No	Yes
Provision of temporary housing priced within the Temporary Lodging Allowance (TLA)	Yes	Yes	Yes	Yes
Provide adequate safety and quality of life for Navy personnel and their families	Partial	Partial	Partial	Yes
<b>Evaluative</b>				
Maximize pedestrian access for DoD personnel and their families to the Navy Exchange, Commissary, and other support facilities located at the Seaplane Base	Yes	Yes	No	Yes
Minimize travel time to places of employment at NASWI	Yes	Yes	Yes	Yes
Minimize cost of acquisition to the Navy	Yes	Yes	Yes	Yes
Maximize Navy Lodge-generated revenue for support of MWR programs such as the MWR Marina	Partial	Partial	Yes	Yes
Minimize environmental effects	Yes	Partial	Partial	Yes
Minimize effects on the proposed Seaplane Base Historic District	No	No	Yes	Yes
Minimize impacts to recreation facilities	Yes	No	Yes	Yes
Minimize loss of open space	Yes	No	No	No
<i>Yes = Option meets the intent of the criterion; Partial = Option partially meets the intent of the criterion; No = Option does not meet the intent of the criterion.</i>				
<i>Source: provided by EDAW, Inc.; Options were defined at a meeting with EDAW, Inc., EFA NW, NASWI Public Works Dept. and Environmental Affairs Dept., and NEXCOM, 14 October 1998.</i>				

provide a lower quality of life than Option 4. Additional impervious surface would be created next to the tarmac. Construction noise would impact Navy Lodge patrons and access to the Navy Lodge would be difficult. In summary, Option 2 does not fully meet all of the Navy's exclusionary criteria, and only fully meets three of the eight evaluative criteria (Table 2.3-1). Therefore, Option 2 does not meet the Navy's purpose and need and was dropped from further consideration as a NEPA alternative in this EA.

Option 3: Constructing a New Navy Lodge at Ault Field - This option is not compatible with the Draft RSIP since Ault Field is designated as the primary area of operations at NASWI (Figure 2.1-1) and personnel support facilities are concentrated at the Seaplane Base. Locating a Navy Lodge at Ault Field would not meet the criterion that it be located close to the Navy Exchange, Commissary, and other personnel support facilities. The quality of life criterion would only partially be met by this option. Depending on the siting location, this option could result in additional environmental impacts and loss of open space. In summary, Option 3 does not meet all of the Navy's exclusionary criteria and only fully meets five of the eight evaluative criteria (Table 2.3-1). Therefore, Option 3 does not meet the Navy's purpose and need and was dropped from further consideration as a NEPA alternative in this EA.

Option 4: Constructing a New Navy Lodge at Another Location at the Seaplane Base (the Proposed Action) - This option would result in a new Navy Lodge that is located in a scenic setting within walking distance of personnel support facilities at the Seaplane Base. Although still visible from the proposed Historic District, the distance is greater than Options 1 and 2. Any significant adverse effects on the proposed Historic District would be mitigated by designing the proposed facility to be consistent with the WWII-era architecture of the proposed Historic District. Under this option, the existing lodge would be removed. This option would eliminate some open space, but meets the rest of the evaluative criteria and all of the Navy's exclusionary criteria (Table 2.3-1). Therefore, this option best meets the Navy's purpose and need and is included for full consideration as a NEPA alternative in this EA as the Proposed Action.

## **2.4 SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES**

### **2.4.1 Comparison of Proposed Action and No Action Alternative**

These potential environmental effects and proposed mitigation measures are summarized below and in Table 2.4-1. The information presented in this section is based on the full analysis presented in Sections 3.0. and 4.0.

**Table 2.4-1: Summary of Environmental Effects and Mitigation Measures for the Proposed Action and the No Action Alternative.**

AFFECTED ENVIRONMENT	PROPOSED ACTION	NO ACTION ALTERNATIVE
<b>Land Use</b>		
<b>Environmental Effects</b>	No significant effects. Project would result in a loss of 2.75 acres (1.1 ha) of undeveloped open space. This may lead to a change in land use from Open Space (OS) to Recreation, Community, Support (RC) or other appropriate land use designation. Project would be compatible with Draft RSIP and local and County land use regulations. Project would enhance land uses adjacent to the Proposed Seaplane Base Historic District by removing the temporary Navy Lodge units.	No significant effects. Would result in continued adverse effects on land use adjacent to the proposed Seaplane Base Historic District. No Action would also require a change in land use designation for the existing temporary Navy Lodge that is partially on OS-designated land.
<b>Mitigation Measures</b>	LU-1 (see Section 3.1.3).	Change in land use designation required.
<b>Climate and Air Quality</b>		
<b>Environmental Effects</b>	No significant effects. Some small increase in emissions caused by construction vehicles and equipment and a potential for fugitive dust during construction. Minor increase in combustion engine emissions.	No significant effects.
<b>Mitigation Measures</b>	CAQ-1 and CAQ-2 (see Section 3.2.3).	None required.
<b>Traffic and Circulation</b>		
<b>Environmental Effects</b>	No significant effects. Some construction traffic and small increase in long-term traffic would occur on East Coral Sea Ave. Project would create a need for improved safe pedestrian access to facilities.	No significant effects
<b>Mitigation Measures</b>	TR-1 (see Section 3.3.3)	None required.

**Table 2.4-1: Summary of Environmental Effects and Mitigation Measures for the Proposed Action and the No Action Alternative.**

AFFECTED ENVIRONMENT	PROPOSED ACTION	NO ACTION ALTERNATIVE
<b>Noise</b>		
<b>Environmental Effects</b>	No significant effects. Short-term increased noise levels near the proposed Navy Lodge site during construction, but effects to residential areas limited to eight Senior Officer houses closest to the site.	No significant effects.
<b>Mitigation Measures</b>	N-1 (see Section 3.4.3).	None required.
<b>Recreation Resources</b>		
<b>Environmental Effects</b>	No significant events and some positive benefits. Facility would increase MWR revenue for NASWI recreation programs. Proposed hilltop site is more conducive for younger children.	No significant effects.
<b>Mitigation Measures</b>	None required. TR-1 would ensure safe pedestrian access (see Section 3.5.3).	None required.
<b>Historical and Cultural Resources</b>		
<b>Environmental Effects</b>	No significant effects to historic or cultural resources are anticipated.	No significant effects. Some continued adverse affects to the adjacent proposed Seaplane Base Historic District.
<b>Mitigation Measures</b>	CR-1, CR-2, and CR-3 (see Section 3.6.3).	None required.
<b>Aesthetic/Visual Resources</b>		
<b>Environmental Effects</b>	No significant effects. Project would effectively block a portion of the view from eight Senior Officer houses on Elk Drive. Views from portions of the proposed Seaplane Base Historic District would be changed.	No significant effects. Continued adverse effects to the adjacent proposed Seaplane Base Historic District.
<b>Mitigation Measures</b>	CR-1, CR-2, and CR-3 (see Section 3.7.3).	None required.

**Table 2.4-1: Summary of Environmental Effects and Mitigation Measures for the Proposed Action and the No Action Alternative.**

AFFECTED ENVIRONMENT	PROPOSED ACTION	NO ACTION ALTERNATIVE
<b>Geology and Soils</b>		
<b>Environmental Effects</b>	No significant effects. Construction is not expected to increase erosion adjacent to the site. During construction periods, the Navy would utilize Best Management Practices (BMPs) to minimize potential erosion effects.	No significant effects.
<b>Mitigation Measures</b>	GS-1, GS-2, and GS-3 (see Section 3.8.3)	None required.
<b>Hydrology and Water Quality</b>		
<b>Environmental Effects</b>	No significant effects. During construction, the removal of vegetation and upper soil layers may increase runoff and localized erosion.	No significant effects.
<b>Mitigation Measures</b>	GS-1, GS-2, and GS-3 (see Section 3.9.3)	None required.
<b>Vegetation and Wildlife Resources / T&amp;E Species</b>		
<b>Environmental Effects</b>	No significant effects. Construction would eliminate 2.75 acres (1.1 ha) of grassland wildlife habitat. There would be no effect to threatened or endangered species.	No significant effects.
<b>Mitigation Measures</b>	VWR-1 and VWR-2 (see Section 3.10.3)	None required.
<b>Environmental Health Hazards</b>		
<b>Environmental Effects</b>	No significant effects. Without mitigation, the project would result in potentially unsafe pedestrian access along East Coral Sea Avenue. No impact caused by potential explosive, electromagnetic radiation, or fuel hazards.	No significant effects.
<b>Mitigation Measures</b>	TR-1 (see Section 3.11.3)	None required.

**Table 2.4-1: Summary of Environmental Effects and Mitigation Measures for the Proposed Action and the No Action Alternative.**

AFFECTED ENVIRONMENT	PROPOSED ACTION	NO ACTION ALTERNATIVE
<b>Environmental Justice</b>		
<i>Environmental Effects</i>	No significant effects. Distribution of the EA FONSI is required.	No significant effects.
<i>Mitigation Measures</i>	EJ-1 (see Section 3.12.3)	None required.

## **2.4.2 Proposed Mitigation Measures**

Below is a complete listing of the proposed mitigation measures identified in this EA for the Proposed Action.

### ***Land Use***

LU-1      The Navy will modify the NASWI Master Plan during the next update cycle to reflect the change in designated land use at the proposed Navy Lodge site from OS to RC, or other appropriate land use designation.

### ***Climate and Air Quality***

CAQ-1      Construction activities associated with the Proposed Action will comply with NWAPA Regulations, Section 550, Preventing Particulate Matter From Becoming Airborne. The following measures have been developed in consultation with the NWAPA for the control of fugitive dust generated during construction (NWAPA 1994; pers. comm., Mahar 1998).

- During all land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities, fugitive dust emissions will be effectively controlled by watering or soaking;
- All disturbed areas, including storage piles, that are not being actively utilized for construction purposes, will be effectively stabilized of dust emissions by applying water, chemical stabilizers/suppressant, or vegetative ground cover;
- Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles will be effectively stabilized of fugitive dust emissions by utilizing sufficient water or chemical stabilizer/suppressant;

- Traffic speed on any unpaved areas and roadways will be limited to 15 mph (24 km/hr);
- Vegetation will be replanted in disturbed areas as quickly as possible;
- When materials are transported off site, all material will be covered or effectively wetted to limit visible dust emissions, or sufficient freeboard space from the top of the bed will be provided to effectively limit dust emissions during transport (typically, 1 foot of freeboard space is sufficient for controlling dust emissions);
- Ground-disturbing activities will be suspended during high wind conditions (25 mph [40 km/hr] or greater); and
- All operations will limit or expeditiously remove the accumulation of mud or dirt from adjacent roadways by appropriate means as noted below. The accumulation of mud and dirt on roadways can be limited by paving or surfacing exit aprons with quarry spalls (i.e., riprap) and by brushing or washing of wheels, wheel wells, running boards, and tailgates prior to exiting. Adjacent roadways can be sprayed with water and/or swept as needed for the removal of mud and dirt (the use of dry rotary brushes for the removal of material from adjacent roadways is not recommended except where preceded or accompanied by sufficient wetting to limit the visible dust emissions; use of blower devices is also not recommended.)

**CAQ-2** The application of any cutback asphalt paving material during construction of any roadway or parking areas associated with the Proposed Action will comply with NWAPA Regulations, Section 580.7, Cutback Asphalt Paving. NWAPA defines cutback asphalt as “an asphalt that has been blended with more than seven percent petroleum distillates by weight” and limits the application of cutback asphalt as follows:

“Application of cutback asphalt in paving is prohibited during the months of June, July, August, and September, except when 1) used as a penetrating prime coat on aggregate bases prior to paving, 2) the manufacture of patching mixes used exclusively for pavement maintenance and needed to be stockpiled for times longer than one month, and 3) the temperature during application is below 50 degrees Fahrenheit (10 degrees C)” (NWAPA 1998).

#### ***Traffic and Circulation***

**TR-1** Prior to completion of lodge construction, NEXCOM and NASWI Public Works will construct a 5-foot (1.5-m) wide sidewalk along East Coral Sea Avenue between the proposed site and the Navy Exchange/Commissary area. The pedestrian route will meet all Federal accessibility requirements.

### ***Noise***

- N-1 The Navy will minimize noise emissions during construction in compliance with the Navy Environmental and Natural Resources Manual (OPNAVINST 5090.1B) that requires maximum use of low noise emission products, as certified by EPA, for all Navy-related operations, as well as compliance with other Federal and State regulations pertaining to construction-related noise generation. Measures to reduce construction noise will include: (1) limiting construction activities to normal daytime periods between 7 a.m. and 7 p.m. Monday through Saturday, (2) using equipment with proper mufflers or noise control devices, and (3) situating noise-generating equipment near construction activities only.

### ***Recreation Resources***

Mitigation measure TR-1 will be implemented to provide safe pedestrian access.

### ***Cultural Resources***

- CR-1 The Navy will halt construction and consult with the SHPO if an unanticipated discovery of archeological resources occurs during construction. The potential significance of the resources found will be determined and appropriate mitigation measures, if any, will be identified and implemented.
- CR-2 The Navy will design and construct the proposed Navy Lodge as approved by the Washington State Historic Preservation Officer (SHPO) to ensure compatibility with the proposed Seaplane Base Historic District.
- CR-3 NEXCOM and NASWI Public Works Department will restore the Seaplane Base tarmac by removing the 24 mobile units currently being used as the Navy Lodge, capping or removing utilities, and resurfacing disturbed areas with concrete.

### ***Aesthetic/Visual Resources***

Mitigation measure CR-2 will address aesthetic/visual resource issues.

### ***Geology and Soils***

- GS-1 The Navy contractor will minimize the risk of soil contamination during construction by restricting fueling and equipment maintenance to a designated staging area with an impermeable surface and a spill containment and clean-up kit.

- GS-2      The Navy contractor will implement BMPs, as defined by WDOE and Island County and outlined in the NASWI Integrated Natural Resources Management Plan (INRMP), to minimize erosion and disturbance during construction.
- GS-3      The Navy contractor will follow the standard vegetation planting practices listed in the INRMP.

#### ***Hydrology and Water Quality***

Mitigation measures GS-1 through GS-3 will address hydrology and water quality issues.

#### ***Vegetation and Wildlife Resources***

- VWR-1      The area disturbed during construction will be minimized, all trees outside of the construction area will be maintained, and temporarily disturbed areas will be revegetated with native plant species beneficial for wildlife following guidelines in the INRMP.
- VWR-2      During construction activities, the Navy will continue to observe bald eagles at the Seaplane Base as described in the NASWI Bald Eagle Management Plan. If nesting activity is noted within 1,312 ft (400 m) of the construction site, the Navy will adhere to requirements of the BEMP for construction practices.

Mitigation of construction effects on vegetation and wildlife resources will also be accomplished by implementation of mitigation measures GS-1 through GS-3.

#### ***Environmental Health Hazards***

TR-1 will be implemented by NEXCOM and NASWI as part of the Navy's compliance with Executive Order 13045 and NEPA to ensure safe Navy Lodge patron pedestrian access to the Exchange and Commissary area.

#### ***Environmental Justice***

- EJ-1      The Navy will distribute this EA in compliance with Executive Order 12898 and NEPA to the Swinomish and Samish Tribes to ensure that these minority groups receive adequate information concerning the Proposed Action. Requests from any minority or ethnic groups or organizations for information and/or copies of this EA will be met in a timely manner by the Navy.

#### ***Other Resource Topics With No Mitigation Required***

No adverse effects were identified for the Proposed Action for the following resource topics: wetlands, socioeconomic, public services, schools, and utilities. Therefore, no mitigation measures are necessary to protect these resources.

## 2.5 FONSI OR EIS RECOMMENDATION

The conclusion of this EA is that a Finding of No Significant Impact (FONSI) is justified and is hereby recommended. The preparation of an Environmental Impact Statement (EIS) by the Navy is not recommended or warranted because all impacts of the Proposed Action may be mitigated below a level of significance.

### **3.0 AFFECTED ENVIRONMENT, ENVIRONMENTAL CONSEQUENCES, AND MITIGATION MEASURES**

Section 3.0 discusses the affected environment, environmental consequences, and proposed mitigation measures for effects associated with alternatives under consideration in this EA, by resource area. Potential effects were analyzed for both the Proposed Action (construction and operation of a new permanent 50-unit Navy Lodge at the Seaplane Base) and the No Action Alternative (continued operation of the existing 24-unit temporary Navy Lodge at Seaplane Base). For the purpose of assessing traffic impacts, the potential full build-out of 72 units was assumed. Each resource topic is discussed separately below. Environmental resource topics found to have no, minor, or negligible effects are discussed at the end of this section and include wetlands, socioeconomic, public services, schools, and utilities.

#### **3.1 LAND USE**

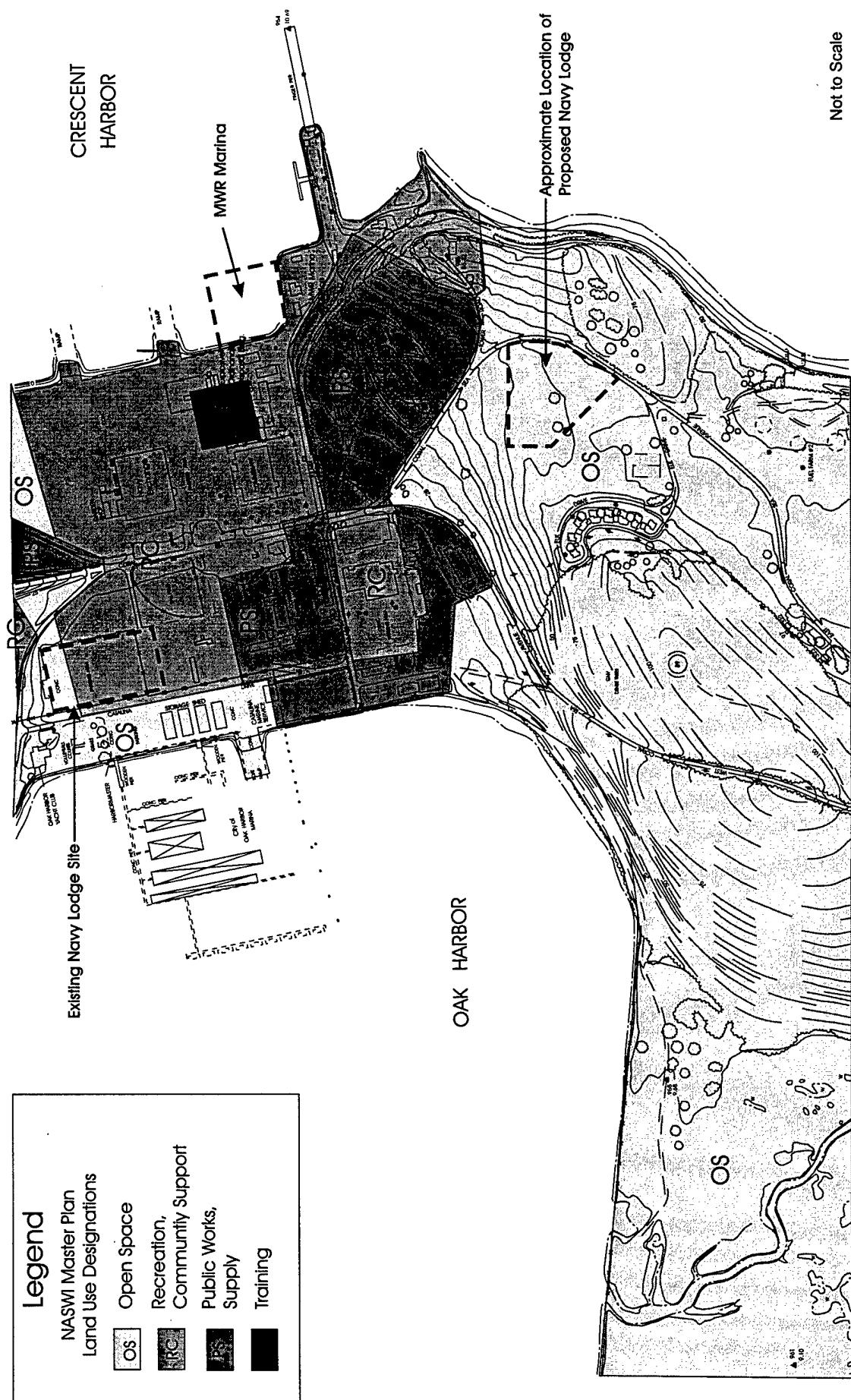
##### **3.1.1 Affected Environment**

The proposed Navy Lodge site is located on Navy property in Township 32 N, Range 1 E, Section 41 within Island County. The proposed 2.75-acre (1.1-ha) site is situated west of East Coral Sea Avenue on a relatively flat hilltop near the middle of the 1,700-foot (518-m) wide isthmus separating Oak Harbor to the west and Crescent Harbor to the east. The proposed site is currently open grassland with a few widely scattered trees; the nearest forested stand is 0.2 mile (0.3 km) to the southwest. The area north of the proposed site at the bottom of the hill is heavily developed. This developed area consists of: MWR Marina, main pier, Navy Exchange, Commissary, miscellaneous personnel support facilities, Explosive Ordnance Disposal (EOD) facility, fuel farm, large paved tarmac and parking areas, boat ramps, and parking lots (see Figure 2.1-2). Capehart and Senior Officer housing complexes and a second fuel farm are located to the south of the proposed Navy Lodge site (see Figure 2.1-3).

An undeveloped area east of East Coral Sea Avenue is composed of shrubland with scattered trees. An Electronic Combat Training (ECT) facility is also located nearby on the coastline bluff. This facility is a prominent visual feature because of its large white radome atop a 2-story structure. An aboveground fuel farm pipeline parallels the eastern side of East Coral Sea Avenue directly across from the proposed Navy Lodge site.

The Seaplane Base lies within the City of Oak Harbor but is not subject to local land use and zoning requirements. That portion of the City of Oak Harbor outside but adjacent to NASWI is zoned for commercial and/or residential uses.

Planning and development at NASWI is guided by the 1988 NASWI Master Plan Update (Department of the Navy 1988). The existing designated land use in the vicinity of the proposed site is Open Space (OS), as presented in Figure 3.1-1. The area containing the



Source: Department of the Navy 1988

# Environmental Assessment for Navy Lodge Seaplane Base, NASWI

## Land Use - Existing

Figure 3.1-1

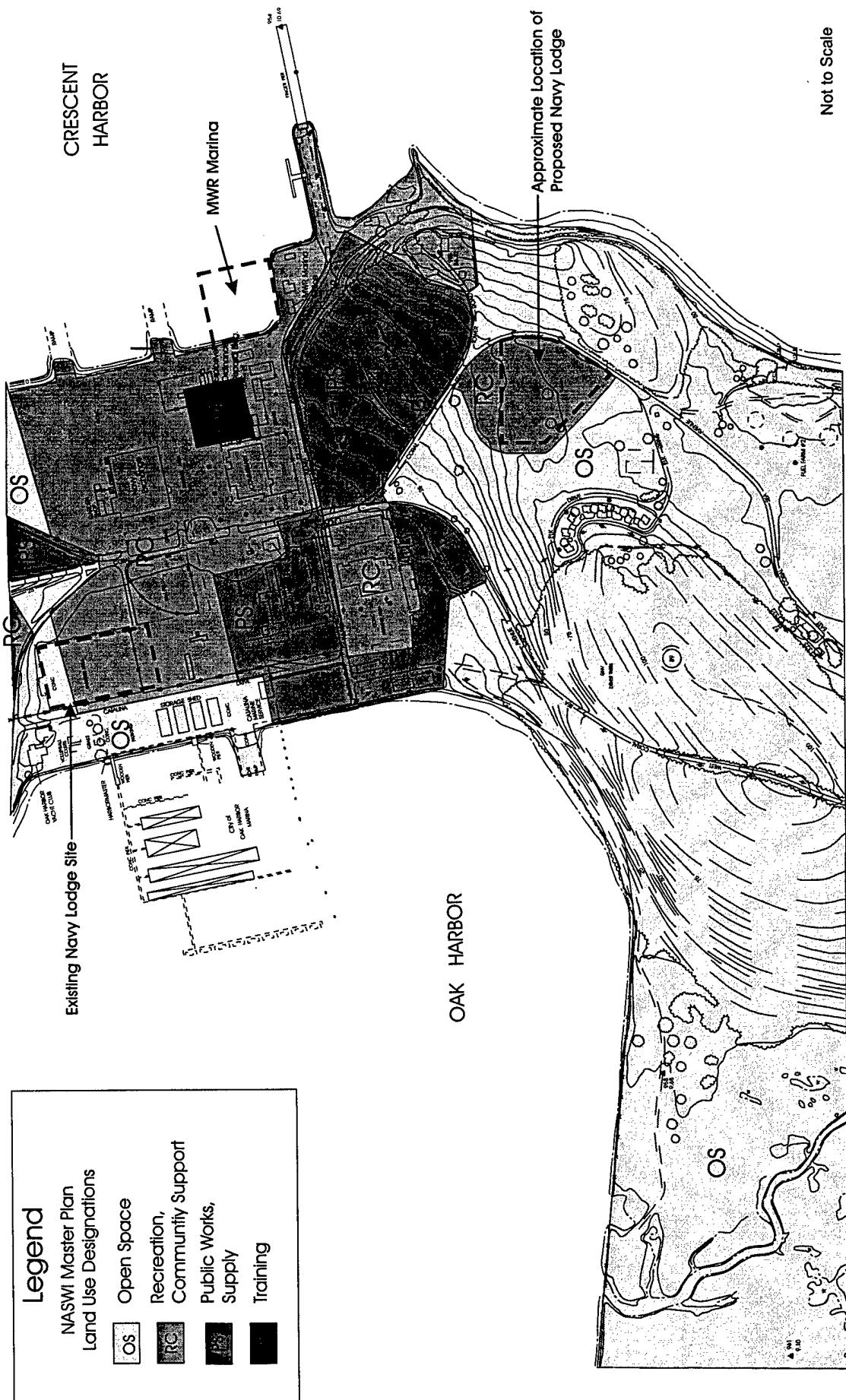
fuel farm to the northeast of the proposed site, as well as the numerous buildings and parking areas, is an area designated as Public Works, Supply (PS). The developed area to the north is designated Recreation, Community Support (RC). The existing temporary Navy Lodge facility is located in an area designated RC and OS (Department of the Navy 1988). Planned future land use in the vicinity of the existing temporary Navy Lodge is anticipated to remain unchanged from existing use (Department of the Navy 1988). In addition, it is the Navy's policy to concentrate active operational functions at NASWI adjacent to the flightline at Ault Field and to concentrate support functions, such as housing, at the Seaplane Base (Department of the Navy 1998b).

Land use at NASWI also must be consistent with the recommendations set forth in a second Navy planning document, the Draft RSIP (Department of the Navy 1998b). RSIP is a new regional planning effort being conducted by the Navy that is intended to identify appropriate land uses at each installation on a region-wide basis. RSIP recommendations will eventually be incorporated into each base master plan in the Puget Sound Region. In its Land Use Adjacency analysis, the Draft RSIP identifies both the existing temporary Navy Lodge site and the proposed site as "Flexible/Community Support." This includes functions that: (1) support the operation mission, yet have flexibility in siting and no proximity requirement; (2) support general base functions; or (3) provide community support services to the military community, including housing. Under its Land Use Compatibility analysis, the Draft RSIP labels both the existing and the proposed site as "Quality of Life." This category includes functions that provide community support services to the military community, including housing, recreation, and other personnel support functions.

In a separate Navy study focusing on noise and hazards, entitled the Ault Field and Coupeville OLF Air Installation Compatible Use Zones (AICUZ) Study Update, the proposed site is outside of Navy aircraft noise and hazard zones (Department of the Navy 1986). The Navy prepared the AICUZ Study results to identify existing and potential problem areas and to formulate courses of action to promote compatible development. The proposed site is approximately 2,500 feet (762 m) from "noise zone 2" and is outside the accident potential zone (Department of the Navy 1988). Because the proposed Navy Lodge site is approximately 550 feet (168 m) from the nearest shoreline, the project does not require a Shoreline Substantial Development Permit from Island County.

### **3.1.2 Environmental Consequences**

The Proposed Action is inconsistent with the existing Open Space (OS) land use designation for the proposed hilltop site (Department of the Navy 1988). This inconsistency would require a change in the land use designation for the proposed site from Open Space (OS) to Recreation, Community Support (RC) or other appropriate land use designation during the next update of the NASWI Master Plan. This proposed land use designation change is graphically shown in Figure 3.1-2.



**Land Use - Proposed**

Figure 3.1-2

Environmental Assessment  
for Navy Lodge  
Seaplane Base, NASWI

The redesignation and subsequent development of the proposed Navy Lodge facilities at the hilltop site would result in the net loss of Open Space designated land at the Seaplane Base. While this loss would alter the current open space character of the site, the Proposed Action would nonetheless conform with the intent of the 1988 Master Plan Update policy which states:

“the development concept for NAS Whidbey Island seeks to concentrate the most active operational functions adjacent to the flight line and less critical support functions further away. The Seaplane Base, therefore, is the logical location for housing...” (Department of the Navy 1988).

The proposed Navy Lodge would be located near existing housing complexes with access to nearby Commissary and Navy Exchange facilities. The Proposed Action would conform to the AICUZ (Department of the Navy 1988). In addition, the proposed Navy Lodge would adhere to both Land Use Adjacency and Land Use Compatibility policies in the Draft RSIP (Department of the Navy 1998b).

The No Action Alternative would not result in a loss of Open Space designated land at the proposed Navy Lodge hilltop site. However, it would result in a continued loss of Open Space designated land at the existing temporary Navy Lodge site since the current facility is located on both OS- and RC-designated land uses. Like the Proposed Action, the No Action Alternative would also require a change in land use designation to RC during the next update of the NASWI Master Plan. Furthermore, the existing Navy Lodge was built as a temporary facility in 1995. The 24 mobile home units were never intended to remain at this location for more than a few years. Continued occupancy at the existing Navy Lodge site is inconsistent with long-term use of the tarmac and affects the adjacent proposed Seaplane Base Historic District (see Section 3.6, Cultural Resources).

### **3.1.3 Mitigation Measures**

To ensure that the Proposed Action is consistent with the Navy Planning documents, the following mitigation measure would be implemented:

- LU-1      The Navy will modify the NASWI Master Plan during the next update cycle to reflect the change in designated land use at the proposed Navy Lodge site from OS to RC, or other appropriate land use designation.

## **3.2 CLIMATE AND AIR QUALITY**

This section addresses potential climate and air quality impacts associated with the Proposed Action and No Action Alternative.

### 3.2.1 Affected Environment

Whidbey Island has a uniform marine climate with temperature extremes modified by prevailing westerly winds from the Pacific Ocean. The marine influence is responsible for the relatively mild but distinct wet and dry seasons associated with the area. The mean annual temperature is 47°F (8°C). Average annual precipitation is approximately 20 inches (50 cm) due to the precipitation shadowing effect of the Olympic Mountains. These mountains cause prevailing southeast storms to drop most of their moisture before reaching Whidbey Island. Snowfall is a relatively rare occurrence and usually melts within a day or two.

Spring and summer are characterized by clear, sunny days, with average daily maximum temperatures of 58°F (14°C). Winds are light and variable. In winter, a relatively stationary low pressure region develops in the Aleutian Islands in Alaska. This low pressure region sends storms through Puget Sound and is responsible for overcast, rainy winters with occasional fog. The average daily minimum temperature is 41°F (5°C). The strongest winds occur from the south or southeast during intense Pacific winter storms. Winds may exceed 55 miles per hour (mph) (89 km/hr) once every two years and 80 mph (129 km/hr) once every 50 years (EA 1996).

The Whidbey Island air basin is considered to be an air quality attainment area and is regulated by the U.S. Environmental Protection Agency (EPA), Washington Department of Ecology (WDOE), and the Northwest Air Pollution Authority (NWAPA). NWAPA is the local air pollution control agency serving Island, Skagit, and Whatcom counties. The EPA has established National Ambient Air Quality Standards (NAAQS) to protect the health and welfare of the public. WDOE and NWAPA have established standards which, for the most part, parallel the NAAQS, except for more stringent sulfur dioxide ambient air quality standards (Table 3.2-1).

Monitoring of ambient air quality on Whidbey Island is limited because of the good air quality. NWAPA operated a total suspended particulates (TSP) monitoring station in the City of Oak Harbor, but it was discontinued after documenting several years of low TSP levels. The other NWAPA air quality monitoring network is associated with an industrial complex near Anacortes. Carbon monoxide (CO), oxides of nitrogen (NO<sub>x</sub>), and ozone (O<sub>3</sub>) are not measured on Whidbey Island. However, due to the low levels of pollutants emitted locally, emissions of these criteria pollutants are generally not considered to be a problem in the Oak Harbor area, and future changes in the air quality attainment status of the Whidbey Island air basin are not anticipated (pers. comm., Mahar, 1998). NASWI is the only major source of emissions in the Oak Harbor area. In 1997, NASWI emissions included the following levels of criteria pollutants (NWAPA 1994):

- 67 tons (60,782 kg) of volatile organic compounds (VOCs),
- 34 tons (30,845 kg) of particulate matter (PM<sub>10</sub>),
- 30 tons (27,216 kg) of NO<sub>x</sub>,

- 8 tons (7,258 kg) of sulfur dioxides (SOx), and
- 31 tons (28,123 kg) of CO.

**Table 3.2-1: Ambient Air Quality Standards.**

POLLUTANT	NATIONAL		WASHINGTON STATE	NWAPA
	Primary	Secondary		
<b>Carbon Monoxide (CO)</b>				
8-Hour Average	9 ppm	None	9 ppm	9 ppm
1-Hour Average	35 ppm		35 ppm	35 ppm
<b>Particulate Matter (PM<sub>10</sub>)</b>				
Annual Arithmetic Average	50 µg/m <sup>3</sup>	50 µg/m <sup>3</sup>	50 µg/m <sup>3</sup>	50 µg/m <sup>3</sup>
24-Hour Average	150 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>
<b>Particulate Matter (PM<sub>2.5</sub>)</b>				
Annual Arithmetic Average	15 µg/m <sup>3</sup>	15 µg/m <sup>3</sup>	--	--
24-Hour Average	65 µg/m <sup>3</sup>	65 µg/m <sup>3</sup>		
<b>Ozone (O<sub>3</sub>)</b>				
1-Hour Average	0.12 ppm	0.12 ppm	0.12 ppm	0.12 ppm
8-Hour Average	0.08 ppm	0.12 ppm	--	--
<b>Sulfur Dioxide (SO<sub>2</sub>)</b>				
Annual Average	0.03 ppm		0.02 ppm	0.02 ppm
24-Hour Average	0.14 ppm		0.10 ppm	0.10 ppma
3-Hour Average				
1-Hour Average <sup>b</sup>			0.25 ppm	0.25 ppm
1 Hour Average			0.40 ppm	0.40 ppm
5-Minute Average <sup>c</sup>				0.80 ppm
<b>Lead (Pb)</b>				
Calendar Quarter Average	1.5 µg/m <sup>3</sup>	1.5 µg/m <sup>3</sup>	1.5 µg/m <sup>3</sup>	1.5 µg/m <sup>3</sup>
<b>Nitrogen Dioxide (NO<sub>2</sub>)</b>				
Annual Average	0.05 ppm	0.05 ppm	0.05 ppm	0.05 ppm
<i>ppm = parts per million (volumetric) µg/m<sup>3</sup> = micrograms per cubic meter</i>				
<i>a Sulfur dioxide short-term standard never to be exceeded. b Not to be exceeded more than twice in 7 days. c Not to be exceeded more than once in 8 hours.</i>				
<i>Source: 40 CFR 50 (Federal); WAC 173-475 (State); NWAPA Regulations, Section 400 (local)</i>				

### 3.2.2 Environmental Consequences

The environmental consequences of the Proposed Action and the No Action Alternative on climate and air quality are discussed separately in the following two sections.

### **3.2.2.1 Proposed Action**

The Proposed Action would impact regional and local air quality primarily as a result of increased automobile traffic (mobile source emissions). Other air quality impacts would be due to short-term emissions associated with construction activity.

#### **Short-term Air Quality Impacts**

Short-term air quality impacts would occur during construction activities associated with the Proposed Action. Emissions produced during construction would vary daily depending on the type and duration of construction activity. The three basic construction activities associated with the Proposed Action would be excavation and grading, utility installation, and building construction. At this time, the specific types of equipment to be used for construction are not known. However, construction activities would normally involve the use of bulldozers, scrapers, backhoes, and trucks during excavation and grading, as well as concrete mixers, backhoes, trucks, and cranes during building and utility construction and removal.

The Proposed Action would begin in the fall of 1999 and include: (1) construction and operation of a 2-story, 50-unit Navy Lodge with playground and picnicking facilities at the Seaplane Base; (2) construction of a 63-stall parking lot; and (3) sale and removal of the 24 mobile home units currently being used as the Navy Lodge and restoration of the Seaplane Base tarmac after the new Navy Lodge is opened in fall 2000. A potential future addition, if implemented, would expand the proposed Navy Lodge by constructing up to 22 additional units and 21 additional parking stalls at an unspecified time in the future.

The operation of heavy equipment during construction of the proposed Navy Lodge and related facilities, as well as removal of the existing 24 mobile home units, would generate fugitive dust and vehicle exhaust emissions. Vehicle exhaust emissions would also be generated by construction employees traveling to and from the construction sites. However, such activities would be temporary and are not expected to significantly affect air quality with implementation of proposed construction mitigation measures (CAQ-1 and CAQ-2).

The specific types of equipment that would be used during construction are currently not known. However, some basic assumptions can be made to estimate worst-case construction-generated emissions, assuming that the greatest pollutant-generating construction activities would occur during excavation and grading of the project site. Estimated daily construction emissions are presented in Table 3.2-2. As indicated, construction of the Proposed Action would generate approximately 69 pounds (31 kg) per day of NO<sub>x</sub>, 9 pounds (4 kg) per day of Reactive Organic Gases (ROG), and 85 pounds (39 kg) per day of PM10. Because the Proposed Action is located in an area designated as attainment of Federal, State, and local pollutant standards, and because construction activities would be short term, construction-generated emissions are not expected to

significantly affect air quality with implementation of proposed construction mitigation measures (see Section 3.2.3, Mitigation Measures).

**Table 3.2-2: Estimated Construction Emissions.**

SOURCE	POLLUTANTS (lbs/day)		
	NO <sub>x</sub>	ROG	PM <sub>10</sub>
Construction Equipment <sup>1</sup>	59.8	4.4	5.4
Truck and Employee Trips <sup>2</sup>	8.9	4.3	--
Fugitive Dust <sup>3</sup>	--	--	80.0
<b>Total</b>	<b>68.7</b>	<b>8.7</b>	<b>85.4</b>

<sup>1</sup> Construction equipment emissions are based on EPA AP-42 emission factors and assume 1 off-highway truck, 1 scraper, 1 wheeled loader, and 1 grader each operating 6 hours per day.

<sup>2</sup> Truck and employee trips are based on EPA Mobile5b emission factors and assume 20 truck trips and 50 employee trips per day, with an average trip length of 13 miles.

<sup>3</sup> Fugitive dust emissions are based on the EPA AP-42 TSP emission factor and assume 1 acre of active disturbance per day.

*NO<sub>x</sub> Oxides of Nitrogen  
ROG Reactive Organic Gases  
PM<sub>10</sub> Fine Particulate Matter less than 10 microns in diameter*

Sources: EPA 1995; EDAW, Inc., 1998

### Long-term Air Quality Impacts

#### **Stationary Source Emissions**

The Proposed Action would result in a minor increase of stationary source emissions generated by electricity and natural gas consumption. No major stationary emission sources are expected as a result of the Proposed Action. Development of the Proposed Action and potential future addition would ultimately result in the operation of a 72-unit Navy Lodge to replace the 24 mobile home units currently being used. Compared to the existing facilities, the additional temperature control requirements required to service the larger structure are expected to be somewhat offset by improved efficiency from heating/cooling a single building as opposed to 24 separate mobile homes that are each fully exposed to the weather. Technology improvements in heating/cooling systems and other building management actions will also help mitigate for the additional units. Because the region is currently designated a Federal attainment area for ozone, projected increases in VOC and NO<sub>x</sub> emissions generated by stationary sources would have a less-than-significant impact on regional air quality.

### ***Mobile Source Emissions***

Mobile source emissions refer to emissions generated by motor vehicle and equipment use, including tailpipe and evaporative emissions. Implementation of the Proposed Action would increase regional emissions of criteria pollutants generated by employee, visitor, and delivery vehicles. Depending on the pollutant of concern, the potential air quality impact may be of either regional or local concern. For example, NO<sub>x</sub> and VOC are typically considered pollutants of regional concern. NO<sub>x</sub> and VOC react with sunlight to form ozone or photochemical smog. However, CO tends to be a localized pollutant and disperses rapidly at the source.

The Proposed Action (with the potential future addition) would result in a net increase of approximately 400 trips per day (see Section 3.3, Traffic and Circulation). Regional emissions generated by the Proposed Action were assessed using emission factors obtained from the EPA-approved MOBILE5b model. Based on an increase of 400 trips per day and an average trip length of approximately 13 miles (21 km), the Proposed Action would have the potential to generate approximately 28 pounds (13 kg)/day of VOC and 29 pounds (13 kg)/day of NO<sub>x</sub> (see Appendix C, Air Quality Modeling). This increase would be at least partially offset by reduced vehicular travel requirements resulting from Navy Lodge patrons being located closer to their jobs and other support facilities on the Seaplane Base. Reducing the rate at which patrons are turned away would also reduce the average trip length and emission levels relative to the No Action Alternative. Because the region is currently designated a Federal attainment area for ozone, projected increases in regional emissions of VOC and NO<sub>x</sub> generated by mobile sources would have a less-than-significant impact on regional air quality.

As previously mentioned, the primary mobile source pollutant of local concern is CO. Localized CO concentrations are a direct function of vehicle idling time and, thus, traffic flow conditions. CO transport is extremely limited; it disperses rapidly with distance from the source under normal meteorological conditions. Under certain meteorological conditions, however, CO concentrations close to a congested roadway or intersection may reach unhealthy levels, affecting nearby sensitive receptors (i.e., residents, school children, hospital patients, the elderly, etc.). Typically, areas of high CO concentrations, or "hot spots," are associated with roadway intersections that are located within an area of high ambient background CO concentration and operating at high levels of service.

Implementation of the Proposed Action would not reduce levels of service at affected roadway intersections (see Section 3.3, Traffic and Circulation). Due to the relatively low background CO concentrations expected in the project area, the rapid dissipation of gases in the air, and the distance to the nearest sensitive receptors, the potential impacts associated with localized concentrations of CO would be considered less than significant.

#### **3.2.2.2 No Action Alternative**

Under the No Action Alternative, the existing temporary Navy Lodge on the Seaplane Base tarmac would continue to operate. This would result in no additional short-term

construction air quality impacts. It would, however, result in continued long-term traffic emissions from Navy Lodge patrons residing at the facility and from people that are turned away from the Navy lodge when it is fully occupied.

### **3.2.3 Mitigation Measures**

By implementing the following two mitigation measures, there would be no adverse effects to climate or air quality:

CAQ-1 Construction activities associated with the Proposed Action will comply with NWAPA Regulations, Section 550, Preventing Particulate Matter From Becoming Airborne. The following measures have been developed in consultation with the NWAPA for the control of fugitive dust generated during construction (NWAPA 1994; pers. comm., Mahar 1998).

- During all land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities, fugitive dust emissions will be effectively controlled by watering or soaking;
- All disturbed areas, including storage piles, that are not being actively utilized for construction purposes, will be effectively stabilized of dust emissions by applying water, chemical stabilizers/suppressant, or vegetative ground cover;
- Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles will be effectively stabilized of fugitive dust emissions by utilizing sufficient water or chemical stabilizer/suppressant;
- Traffic speed on any unpaved areas and roadways will be limited to 15 mph (24 km/hr);
- Vegetation will be replanted in disturbed areas as quickly as possible;
- When materials are transported off site, all material will be covered or effectively wetted to limit visible dust emissions; or sufficient freeboard space from the top of the bed will be provided to effectively limit dust emissions during transport (typically, 1 foot of freeboard space is sufficient for controlling dust emissions);
- Ground-disturbing activities will be suspended during high wind conditions (25 mph [40 km/hr] or greater); and
- All operations will limit or expeditiously remove the accumulation of mud or dirt from adjacent roadways by appropriate means as noted below. The accumulation of mud and dirt on roadways can be limited by paving or surfacing exit aprons with quarry spalls (i.e., riprap) and by brushing or washing of wheels, wheel wells, running boards, and tailgates prior to exiting. Adjacent roadways can be sprayed with water and/or swept as

needed for the removal of mud and dirt (the use of dry rotary brushes for the removal of material from adjacent roadways is not recommended except where preceded or accompanied by sufficient wetting to limit the visible dust emissions; use of blower devices is also not recommended).

- CAQ-2 The application of any cutback asphalt paving material during construction of any roadway or parking areas associated with the Proposed Action will comply with NWAPA Regulations, Section 580.7, Cutback Asphalt Paving. NWAPA defines cutback asphalt as “an asphalt that has been blended with more than seven percent petroleum distillates by weight” and limits the application of cutback asphalt as follows:

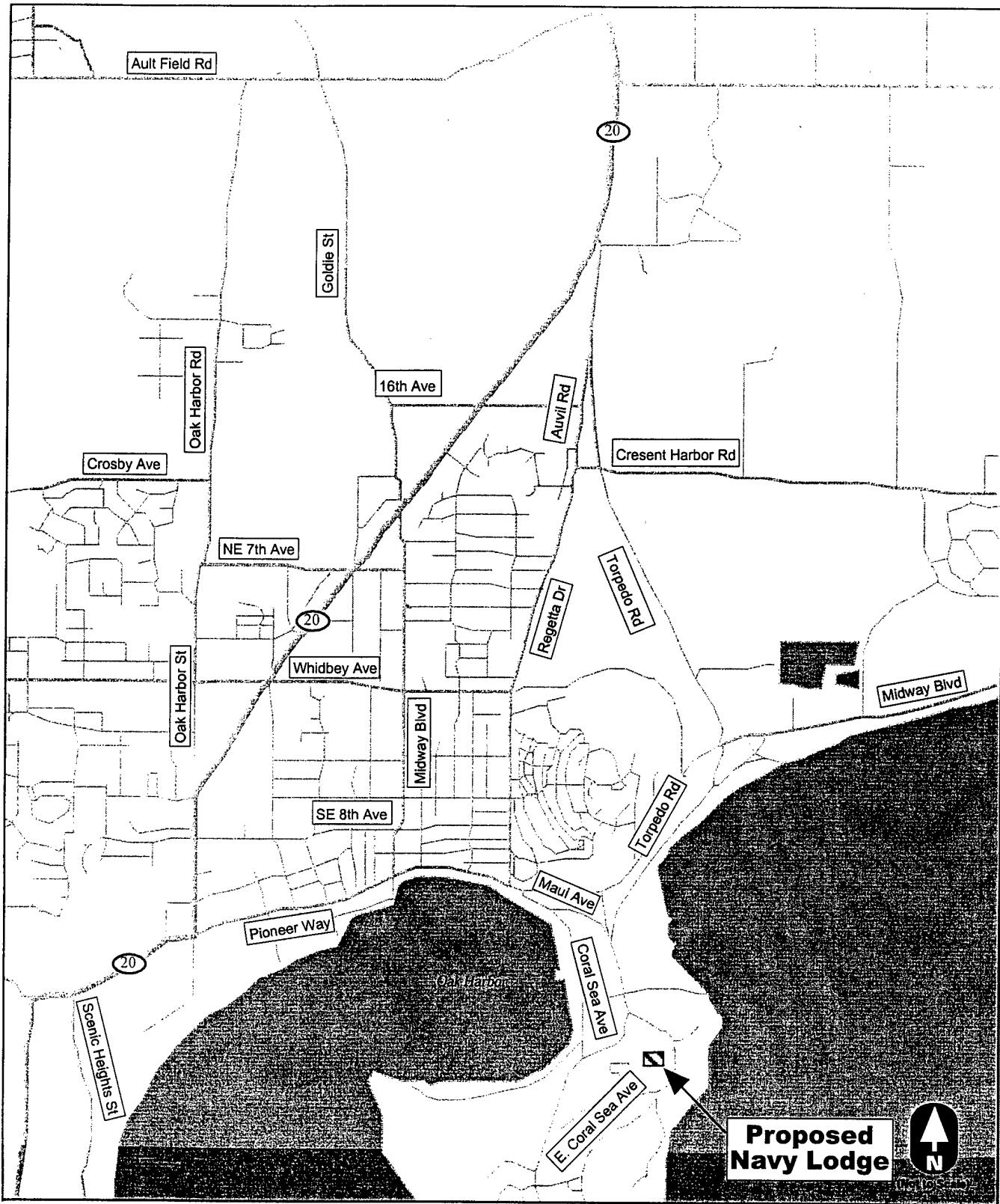
“Application of cutback asphalt in paving is prohibited during the months of June, July, August, and September, except when 1) used as a penetrating prime coat on aggregate bases prior to paving, 2) the manufacture of patching mixes used exclusively for pavement maintenance and needed to be stockpiled for times longer than one month, and 3) the temperature during application is below 50 degrees Fahrenheit (10 degrees C)” (NWAPA 1994).

### **3.3 TRAFFIC AND CIRCULATION**

This section addresses potential traffic and circulation impacts associated with the Proposed Action and No Action Alternative. It evaluates traffic impacts in accordance with Military Traffic Management Command (MTMC) guidelines, the Washington State Department of Transportation (WSDOT) 1989 Interlocal Guidelines for Coordination with the City of Oak Harbor for Mitigation of Development Impacts, and the 1996 Oak Harbor Transportation Concurrency Management Ordinance.

#### **3.3.1 Affected Environment**

The following briefly describes existing traffic and transportation conditions in the vicinity of the proposed Navy Lodge at NASWI. It includes descriptions and analyses of the roadway network, traffic volumes, existing intersection levels of service (LOS), public transit services, collision history, and planned transportation improvements. The transportation study area is generally bounded by Ault Field Road to the north, State Route (SR) 20 to the west, Torpedo Road to the east, and East Coral Sea Avenue to the east and south (Figure 3.3-1).



Source: Provided by KJS Associates

Environmental Assessment  
for Navy Lodge  
Seaplane Base, NASWI

Traffic Study Area

Figure 3.3-1

### 3.3.1.1 Existing Roadway Conditions

Future patrons of the proposed Navy Lodge would enter NASWI via Maui Avenue and access the facility via Coral Sea Avenue and East Coral Sea Avenue. Access to the Seaplane Base is provided via SR 20, a principal highway connecting North Whidbey Island with the Interstate freeway system in Burlington. Between the Seaplane Base and SR 20, available arterial connections include Torpedo Road, Auvil Road/Regatta Drive, Midway Boulevard, and Pioneer Way. There are two established gate entrances that provide access to the Seaplane Base. One is located on Torpedo Road, just south of its intersection with Crescent Harbor Road, and the second is located on Maui Avenue (Figure 3.3-1).

SR 20 is a principal arterial connecting Clinton at the south end of Whidbey Island with downtown Oak Harbor and the Deception Pass Bridge at the north end of the island. SR 20 is a 5-lane road through a majority of the Oak Harbor city limits. Speed limits on the roadway are posted at 35 mph (56 km/hr). Existing weekday daily traffic ranges between 18,000 and 25,000 daily vehicles on SR 20.

Pioneer Way is an east-west minor arterial through the heart of downtown Oak Harbor. It connects the Skagit Valley College campus, Oak Harbor Public Marina, and the NASWI Seaplane Base east of downtown with SR 20. Pioneer Way narrows from four lanes to two with on-street parking on both sides within the downtown core. Curbs, gutters, and sidewalks are provided on both sides of the street. The roadway is posted at 25 mph (40 km/hr) and carries nearly 10,000 daily vehicles near the downtown core.

Auvil Road/Regatta Drive is a 2-lane rural minor arterial roadway with a posted speed limit that ranges between 35 mph (56 km/hr) outside city limits, and 25 mph (40 km/hr) inside the City of Oak Harbor. Daily traffic on this roadway between SR 20 and Pioneer Way ranges between 6,000 and 7,000 vehicles on weekdays. Shoulder conditions vary from dirt and gravel to full curbs, gutters, and sidewalks in sections. Torpedo Road is a 2-lane roadway on the Seaplane Base. North of Crescent Harbor Road, Torpedo Road carried approximately 4,500 daily vehicles in 1993 (estimated based on traffic counts for Auvil Road, Crescent Harbor Road, and Regatta Road for the 1994 Island County Transportation Plan and the 1998 Oak Harbor Draft Circulation Plan). No traffic counts were available on the Naval Station. Shoulder conditions vary but are generally unpaved. Coral Sea Avenue is a 2-lane roadway that serves as the main access on the Seaplane Base and its facilities. In 1986, this roadway carried approximately 7,500 daily vehicles on weekdays (Steedman 1986). Traffic volume data on East Coral Sea Avenue in the vicinity of the proposed project site are not available. Based on the existing number of housing units at the Capehart Complex and on Elk Drive (Figure 2.1-2), it is estimated that approximately 1,500 daily trips and 150 p.m. peak trips occur on East Coral Sea Avenue.

### **3.3.1.2 Existing Traffic Volumes**

Peak period traffic volumes from 1993 through 1998 were obtained from WSDOT, the City of Oak Harbor, and the Island County Public Works Department. Traffic volumes on roadways within the Seaplane Base were collected by NASWI Public Works Department in 1985 and 1986. Since 1998 traffic data were not available at all intersections within the study area, historical counts were factored by growth trends to estimate 1998 traffic conditions. Figure 3.3-2 shows estimated 1998 weekday p.m. peak period traffic volumes in the vicinity of the proposed Navy Lodge site.

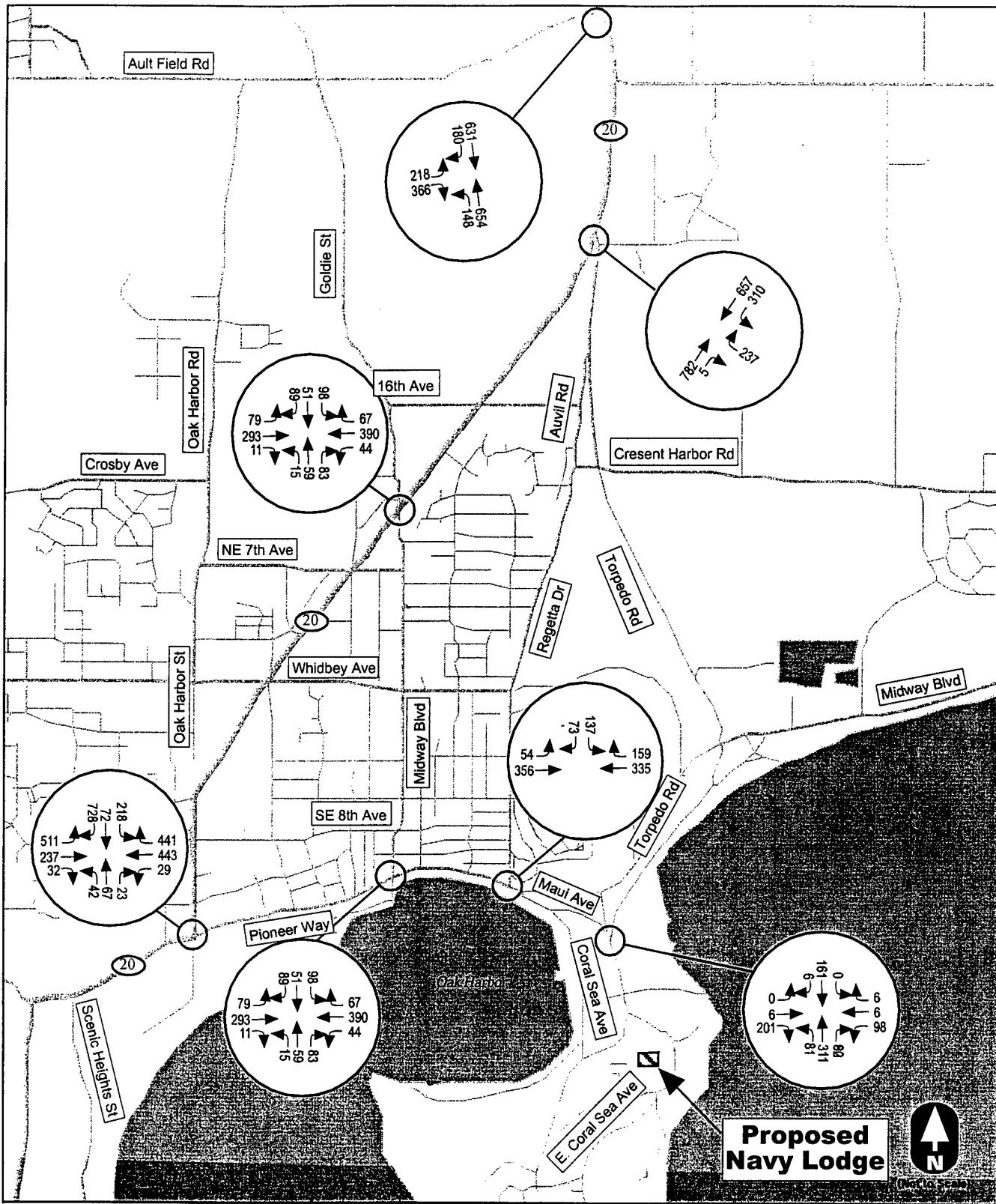
Historical traffic volumes in the study area outside of NASWI indicate average annual growth rates of approximately 4 percent per year since 1993. Thus, all traffic counts outside of NASWI were factored by 4 percent per year to estimate 1998 conditions. To estimate existing traffic volumes within the Seaplane Base itself, a variety of data sources were evaluated and researched including past Environmental Assessments of actions at the Seaplane Base; historical traffic rates entering the base via Pioneer Way, Torpedo Road, and Regatta Drive; and historical NASWI military and civilian work force levels. Based upon these data sources, it was determined that the most appropriate method to factor traffic counts conducted in 1985 was increases in NASWI work force levels. As such, a 15 percent factor was used for traffic volumes at the Maui Avenue/Coral Sea Avenue intersection at the Seaplane Base.

### **3.3.1.3 Existing Intersection Levels of Service**

Level of service (LOS) is an indicator of the quality of traffic flow at an intersection or roadway segment. The LOS grading ranges from A to F, with LOS A corresponding to no delays and low traffic volumes. LOS E, on the other hand, represents an "at capacity" condition under which no additional vehicles could be added to the intersection or road segment without a breakdown in traffic flow. LOS F is an unacceptable level of service and indicates long delays and/or forced traffic flow.

The methods used to calculate the LOS for traffic impact evaluation are described in the 1997 *Highway Capacity Manual* (Transportation Research Board 1997). The measure of effectiveness for signalized intersections is average stopped delay, defined as the total time vehicles are stopped at an intersection approach during a specified time period divided by the number of vehicles departing from the approach in the same time period. For unsignalized intersections, a LOS and estimate of average stopped delay are determined for the entire intersection as well as for each movement. The evaluation procedure is a sequential analysis based on gaps in the major traffic streams.

In accordance with WSDOT and the City of Oak Harbor traffic impact analysis guidelines, key intersections that would be impacted by 10 or more p.m. peak hour trips from new development must be evaluated and mitigation measures developed to maintain acceptable operating levels of service. LOS standards in the City of Oak Harbor are LOS D and LOS E on SR 20 under the 1989 Interlocal Agreement with WSDOT.



Source: Provided by KJS Associates

Environmental Assessment  
for Navy Lodge  
Seaplane Base, NASWI

### 1998 Weekday P.M. Peak Traffic Volumes

Figure 3.3-2

Based on these thresholds, Table 3.3-1 summarizes existing levels of service at critical intersections that would meet locally adopted evaluation criteria. Currently, all intersections operate at LOS C or better.

**Table 3.3-1: Estimated 1998 P.M. Peak Intersection Levels of Service.**

Intersection	PM Peak Level of Service
Ault Field Road at SR 20	LOS C (SIG – 20 secs)
Pioneer Way at SR 20	LOS C (SIG – 20 secs)
Pioneer Way at Midway Boulevard	LOS B (SIG – 9 secs)
Pioneer Way at Regatta Drive	LOS C (TWSC – 14 secs)
Maui Ave at Coral Sea Ave	LOS C (TWSC – 13 secs)

*LOS A–F - Average LOS for stop controlled and yield movements.  
## - Average delay per vehicle of stop controlled and yield movements (in seconds).  
Intersection Traffic Control Key  
SIG: Actuated signal.  
TWSC: Two-way stop controlled.  
Source: KJS Associates, Inc., 1998*

### 3.3.1.4 Historical Collision Rates

The frequency and severity of collisions are commonly weighted against speed, volume, and functional classification of a roadway segment or intersection. These variables are considered in determining if a certain location has an unusually high collision rate. Table 3.3-2 summarizes collision histories at key intersections in the vicinity of the proposed site. The average shown is for a three-year period between January 1, 1994 and December 31, 1996, by measures of average annual rates, and collision rates per million entering vehicles (m.e.v.). Collision data were obtained from WSDOT. The average annual collision rate is calculated by summing the total number of collisions that occurred at the specified intersection during the past three years and dividing it by three. Collisions per m.e.v. reflect the number of vehicles traveling through an intersection, providing a different indication of design-related versus volume-related incidences.

In general, intersections with less than five collisions per year and less than two collisions per m.e.v. are not considered high collision locations. The location with the highest collision rate between 1994 and 1996 was the intersection of SR 20 and Ault Field Road. Although there was a higher number of collisions per year than average at this intersection, it is within acceptable safety limits given the amount of traffic traveling through the intersection. The most common type of collision at this intersection was rear-ends. This can generally be attributed to driver inattention, speeding, and the recent signal installation.

**Table 3.3-2: January 1, 1994 – December 31, 1996 Historical Collision Rates.**

Intersection	Total Collisions	Average Annual Collision Rate	Collision Rate per m.e.v.
SR 20 at Pioneer Way	12	4.00	0.64
SR 20 at Midway Boulevard	25	8.33	1.34
SR 20 at Ault Field Road	28	9.33	1.50

*Source: pers. comm. Foley, 1998.*

### **3.3.1.5 Existing Public Transportation Services**

Island Transit, the public transportation provider for Island County, currently provides a mixture of fixed route and demand responsive services for island residents from Deception Pass Bridge in north Whidbey to the WSDOT Clinton ferry terminal on south Whidbey Island. All of Island Transit's services are provided fare-free to its users. The system is fully funded by a 0.3 percent sales tax, matched by funds from the Motor Vehicle Excise Tax (MVET) revenues generated within the benefit area.

The focal point of Island Transit's fixed bus route service is the recently constructed Harbor Station Transit Center in downtown Oak Harbor. The station is located one block south of Pioneer Way at the northwest corner of Dock Street and Bayshore Drive, approximately 1 mile (1.6 km) west of the Seaplane Base. All of Island Transit's service into the downtown core originates or terminates at Harbor Station and as such serves as the main transfer point for Island Transit's Whidbey Island service. There is a bus stop less than 300 feet (91 m) south of the proposed Navy Lodge site. The Navy also provides shuttle or taxi service for personnel needing employment-related transportation on NASWI.

### **3.3.1.6 Planned Transportation Improvements**

A review was conducted of the planned transportation improvements by the City of Oak Harbor, Island County, and WSDOT in the project vicinity. No capacity-related improvements at critical intersections or roadways in the site vicinity are programmed through the year 2000. The NASWI Public Works Department has no plans for roadway improvements in the project vicinity.

## **3.3.2 Environmental Consequences**

This section describes the potential impacts of the Proposed Action on the surrounding transportation system. The discussion includes No Action Alternative traffic forecasts and transportation needs, new trips generated by the Proposed Action, distribution and assignment of trips, and impacts on levels of service at nearby significant intersections and roadways.

### 3.3.2.1 Proposed Action

#### **Construction Impacts**

Short-term traffic effects from construction of the proposed Navy Lodge and removal of the existing Navy Lodge would occur if the Proposed Action were implemented. These effects would be caused by construction vehicles transporting materials onto the Seaplane Base and construction workers traveling to and from the job site on a daily basis during the 10- to 12-month construction period. No hauling of fill or dredge material would be required. The arrival/departure rate of trucked construction materials would vary over the construction period, as would the number of daily construction workers on site. Flaggers would guide larger vehicles into and out of the site, as well as control traffic on East Coral Sea Avenue. Construction workers would likely arrive and leave during peak traffic periods (a.m. and p.m.), although typical construction activity would be spread beyond an 8-hour work period. Most workers would drive their own vehicles and park on Navy property at the construction site. Construction traffic and parking are not expected to significantly affect surrounding traffic.

Removal of the 24 mobile home units currently used as the temporary Navy Lodge would cause only short-term effects on local traffic on days that the units are trucked off of NASWI property.

#### **Vehicular Trip Generation**

Afternoon peak hour traffic volumes typically represent the highest hourly volumes of vehicles passing through an intersection during a weekday between 4:00 p.m. and 6:00 p.m. Since the p.m. peak volumes usually represent the highest volumes on the average day, these volumes were used to evaluate the worst-case scenario that would occur as a result of a Proposed Action on traffic operations.

For the purpose of the traffic analysis, completion of 50 units was assumed to be in the year 2000 based on the anticipated construction schedule. However, full build-out of the additional 22 units is not known at this time. To evaluate worst-case conditions for the Proposed Action, all 72 units were assumed to be in place and operational at the same time (2000). Actual impacts would be less than the worst-case scenario.

Trip generation equations compiled by the Institute of Transportation Engineers (ITE) in the *Trip Generation Manual, 6<sup>th</sup> Edition*, and *Military Housing Trip Generation Study* (Peterson and Owsiany, 1996, ITE Journal) were used to estimate daily and p.m. peak hour traffic generated by the Proposed Action. Equations were dependent upon the number of units provided and were assumed to be similar to apartments (ITE land use code 210). Table 3.3-3 summarizes the estimated total trip generation for the Proposed Action. A total of 600 daily and 60 p.m. peak hour trips (40 entering and 20 exiting) would be generated by the Proposed Action at full build-out (72 total lodge units).

Because the proposed Navy Lodge represents an actual increase of 48 units compared to the existing 24-unit Navy Lodge at the Seaplane Base, the Proposed Action represents a net increase of only 400 daily trips and 45 p.m. peak hour trips. As such, the net increase of new vehicular trips was used to evaluate traffic impacts of the Proposed Action.

**Table 3.3-3: Estimated Project Trip Generation.**

<b>Proposed Land Use</b>	<b>Number of Units</b>	<b>P.M. Peak Trip Generation</b>			<b>Daily Trip Generation</b>
		<b>Enter</b>	<b>Exit</b>	<b>Total</b>	
Navy Lodge Units – Multi-family Dwellings	72 Units	40	20	60	600
Navy Lodge Units – Multi-family Dwellings	48 New Units (net increase)	30	14	45	400
<i>Provided by KJS Associates, Inc. 1998</i>					

### **Trip Distribution and Assignment**

Using standard engineering practices and guidelines, trips generated by the Proposed Action were distributed and assigned to the surrounding street system based on:

- Existing traffic patterns in the study area;
- Anticipated Navy Lodge use by Navy personnel and families; and
- Existing and future land use characteristics of retail/commercial sites in the study area.

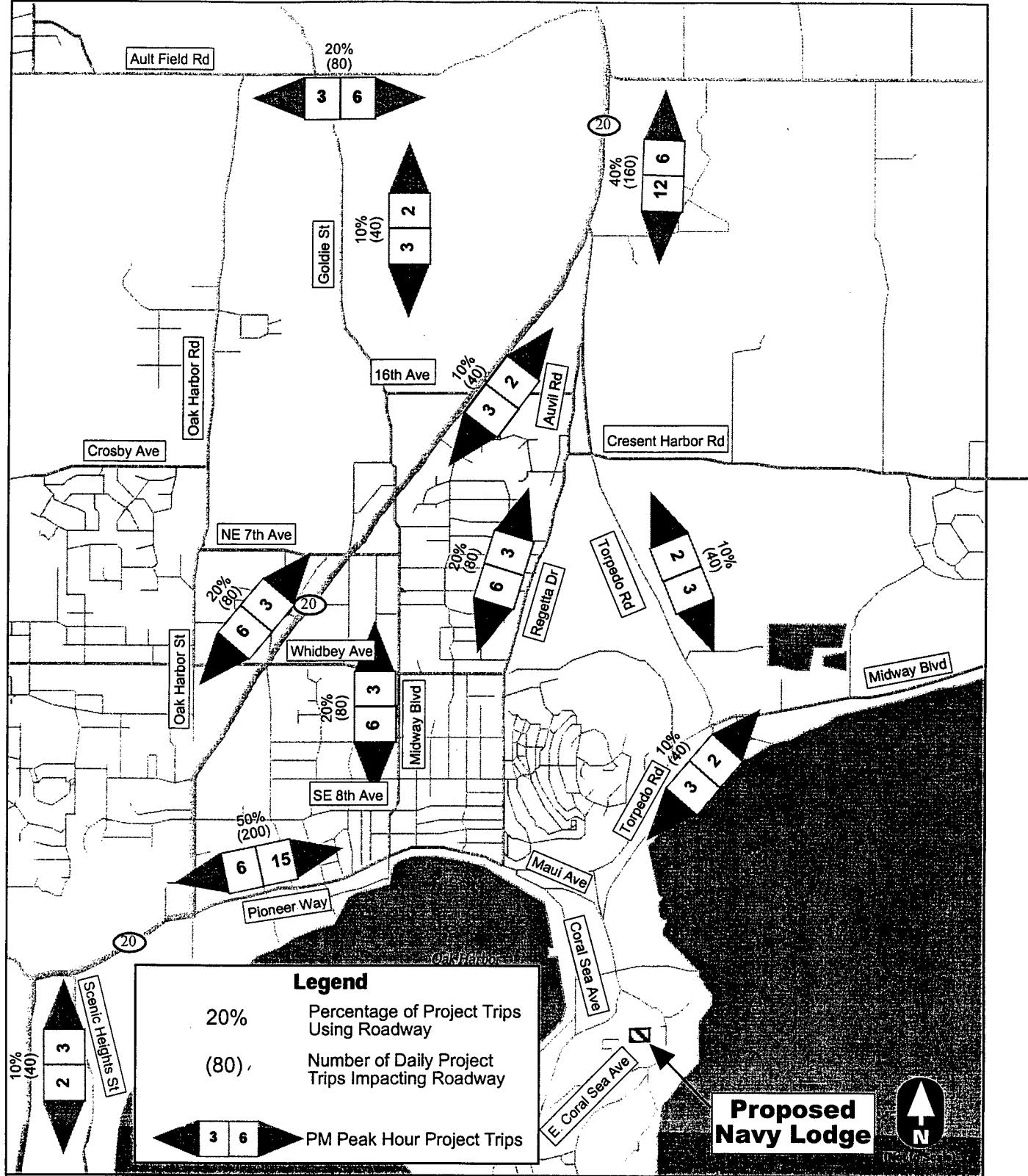
In general, project trip distribution is predicted to follow these basic patterns:

- 20 percent to north Whidbey and off-island destinations;
- 30 percent to Ault Field NASWI facilities;
- 40 percent to retail/commercial core areas within the City of Oak Harbor; and
- 10 percent to south Whidbey Island and residential areas in western Oak Harbor.

Figure 3.3-3 shows the estimated distribution and assignment of new project trips generated by the Proposed Action.

### **Intersection Level of Service Impacts**

Based on locally adopted intersection analysis criteria, traffic impacts were evaluated at critical intersections that would be impacted by 10 or more p.m. peak hour trips. Table 3.3-4 summarizes LOS impacts due to the Proposed Action at these intersections. As shown, no significant adverse impacts would occur to critical intersections in the project vicinity. All intersections would continue to operate at LOS D or better with the Proposed Action.



Source: Provided by KJS Associates

Environmental Assessment  
for Navy Lodge  
Seaplane Base, NASWI

### Project Trip Distribution Under the Proposed Action

Figure 3.3-3

**Table 3.3-4: 2000 Intersection Level of Service Impacts.**

Intersection	2000 Conditions with No Action Alternative	2000 Conditions with the Proposed Action
Ault Field Road at SR 20	LOS D (SIG – 26 secs)	LOS D (SIG – 27 secs)
Pioneer Way at SR 20	LOS C (SIG – 25 secs)	LOS C (SIG – 25 secs)
Pioneer Way at Midway Boulevard	LOS B (SIG – 10 secs)	LOS B (SIG – 10 secs)
Pioneer Way at Regatta Drive	LOS D (TWSC – 20 secs)	LOS D (TWSC – 25 secs)
Maui Ave at Coral Sea Ave	LOS C (TWSC – 15 secs)	LOS C (TWSC – 20 secs)

*LOS A-F - Average LOS for stop controlled and yield movements.  
(#/#) - Average delay per vehicle of stop controlled and yield movements (in seconds).  
Intersection Traffic Control Key  
SIG: Actuated signal.  
TWSC: Two-way stop controlled.  
Source: KJS Associates, Inc. 1998*

Figure 3.3-4 shows future traffic volumes with the Proposed Action.

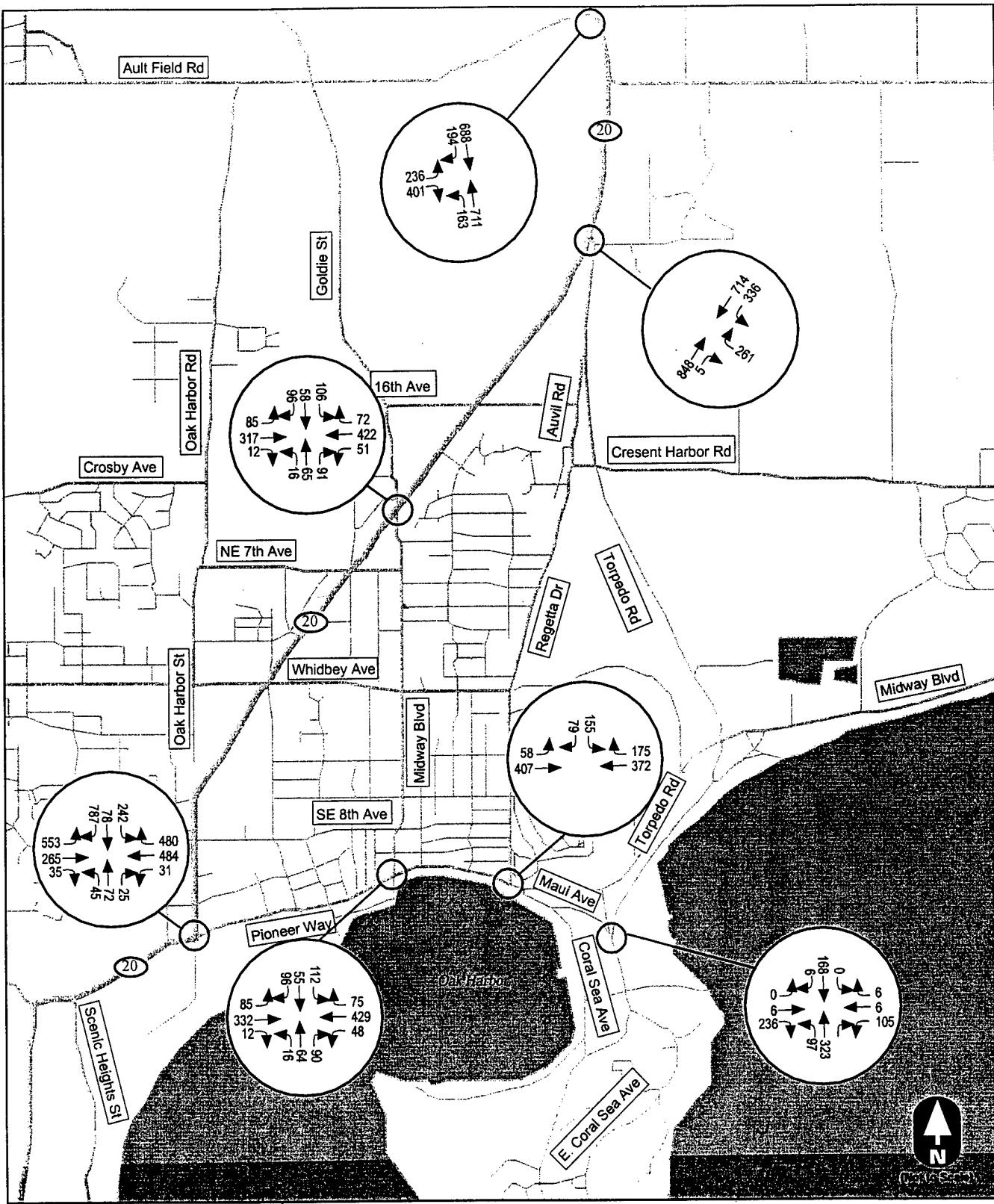
### **Site Access and Circulation Impacts**

On-site circulation would be provided via a short 2-lane paved access driveway that would connect in an easterly direction to East Coral Sea Avenue. No congestion issues would result at this new intersection given the maximum build-out trip generation of only 600 daily vehicle trips and low to moderate traffic on East Coral Sea Avenue. Adequate sight distance would be provided at this new intersection for safe turning movements.

On-site parking would be constructed to accommodate 84 vehicles. Given the transient nature of many of the tenants, the proposed parking ratio of more than 1.0 stall per lodge unit would be adequate.

### **Roadway Impacts**

Under MTMC traffic impact review guidelines, no roadways within the vicinity of the Proposed Action would experience a doubling of daily traffic. The largest increase in daily traffic attributed to project trips from the Proposed Action would be on East Coral Sea Avenue, or 600 new daily trips at full build-out.



Source: Provided by KJS Associates

Environmental Assessment  
for Navy Lodge  
Seaplane Base, NASWI

### 2000 Weekday P.M. Peak Traffic Volumes with the Proposed Action

Figure 3.3-4

### **Pedestrian Safety Impacts**

To ensure that safe and convenient pedestrian access would be provided between the proposed site and adjacent Naval support facilities (e.g., Navy Exchange, Commissary, MWR Marina facilities, etc.), a review was conducted of available non-motorized facilities.

Currently, no separate or roadside facility for walking access between the proposed hilltop Navy Lodge site and the nearby shoreside personnel support facilities is available. Roads in the area of the proposed site have no shoulders. The walking distance from the proposed site and these facilities is approximately 1,500 feet (457 m). To mitigate potential safety hazards of lodge patrons walking along East Coral Sea Avenue which has no shoulder, as well as provide a pedestrian facility to accommodate pedestrian travel needs from the proposed Navy Lodge, a raised sidewalk would be constructed along East Coral Sea Avenue between the proposed site and the Navy Exchange/Commissary area by NEXCOM and NASWI Public Works Department.

#### **3.3.2.2 No Action Alternative**

Under the No Action Alternative, traffic in the vicinity of the existing temporary Navy Lodge would continue to grow at current rates. There would be no effect on East Coral Sea Avenue under the No Action Alternative.

As described in Section 3.3.1.2, historical traffic counts were reviewed to identify growth rates in the site vicinity. From this evaluation, existing counts were factored by 4 percent per year for those locations off of NASWI, and by 2 percent per year for those intersections on the Seaplane Base, to arrive at year 2000 No Action conditions. Table 3.3-5 summarizes intersection levels of service in the site vicinity under the No Action Alternative. As shown, all intersections would operate at LOS D or better in 2000.

**Table 3.3-5: 2000 No Action Alternative P.M. Peak Intersection Levels of Service.**

Intersection	PM Peak Level of Service
Ault Field Road at SR 20	LOS D (SIG - 26 secs)
Pioneer Way at SR 20	LOS C (SIG - 25 secs)
Pioneer Way at Midway Boulevard	LOS B (SIG - 10 secs)
Pioneer Way at Regatta Drive	LOS D (TWSC - 20 secs)
Maui Ave at Coral Sea Ave	LOS C (TWSC - 15 secs)

*LOS A-F - Average LOS for stop controlled and yield movements.  
(#) - Average delay per vehicle of stop controlled and yield movements (in seconds).*

*Intersection Traffic Control Key*

*SIG: Actuated signal.*

*TWSC: Two-way stop controlled.*

*Source: KJS Associates 1998*

### **3.3.3 Mitigation Measures**

The Proposed Action would have no significant traffic impacts on the surrounding arterial roadway system or key intersections in the project vicinity. All intersections and roadways would operate at LOS D or better with or without the project in 2000.

To mitigate potential safety hazards caused by the interface of pedestrians and vehicles, as well as provide a facility to accommodate walking trips from the proposed Navy Lodge to nearby personnel support facilities, NEXCOM and NASWI would implement the following measure:

- TR-1 Prior to completion of lodge construction, NEXCOM and NASWI Public Works will construct a 5-foot (1.5-m) wide sidewalk along East Coral Sea Avenue between the proposed site and the Navy Exchange/Commissary area. The pedestrian route will meet all Federal accessibility requirements.

## **3.4 NOISE**

This section addresses potential noise impacts associated with the Proposed Action and No Action Alternative.

### **3.4.1 Affected Environment**

Several sound descriptors have been developed to summarize how people hear sound and to measure the effect of environmental noise on public health and welfare. The day-night sound level (Ldn) is the sound level for a 24-hour period with an additional 10 decibels (dBA) weighting imposed on the equivalent sound levels occurring during night-time hours (10 p.m. to 7 a.m.). The added sound level to this noise descriptor is used to account for the greater sensitivity of people to noise during these evening and night-time periods.

In general, humans can perceive noise level differences of about 3 dBA or greater; however, a change in the noise level of at least 5 dBA is required before any noticeable response is expected. A difference of 10 dBA is perceived as a doubling of loudness, and would almost certainly cause an adverse change in community response (refer to Appendix D, Acoustic Fundamentals).

The EPA suggests the use of the Ldn noise descriptor to relate noise in residential environments causing interference with speech, sleep, and other activities. EPA studies indicate that non-construction related levels of 55 Ldn or lower are acceptable, levels of 55 to 65 Ldn cause some effect, levels of 65 to 70 Ldn cause adverse effects, and levels of 70 Ldn or higher are unacceptable (EPA 1978). Various guidelines have also been developed by other Federal agencies.

WDOE has also established environmental noise limits defined in terms of an Environmental Designation for Noise Abatement, which considers the use of the property and adjacent lands for determination of applicable noise standards. However, noise

generated at temporary construction sites as a result of construction activities (between the hours of 7 a.m. and 10 p.m.) is exempt from these limits. The WDOE controls motor vehicle noise through implementation of Washington Administrative Code (WAC), Chapter 173-62, which limits the noise generated by motor vehicles at specified distances (WDOE 1998).

No land uses or facilities that would be considered noise-sensitive receptors are adjacent to the proposed site. Land uses adjacent to the proposed site consist primarily of commercial/industrial uses and vacant land. Sensitive receptors in the vicinity of the proposed Navy Lodge site include a Navy Senior Officer housing area and associated recreation facilities approximately 300 feet (91 m) southwest of the proposed site. Potential sensitive receptors near the existing Navy Lodge include the proposed Seaplane Base Historic District approximately 800 feet (244 m) to the north and the Skagit Valley Junior College campus located approximately 400 feet (122 m) to the northwest. The proposed Navy Lodge site is outside the 60 dBA Ldn noise contour for Navy flights from Ault Field (Department of the Navy 1988).

### **3.4.2 Environmental Consequences**

Environmental consequences for the Proposed Action and No Action Alternative are discussed below.

#### **3.4.2.1 Proposed Action**

The Proposed Action would generate noise due primarily to short-term construction activities associated with the removal of the 24 existing mobile home units at the existing Navy Lodge and construction of the proposed new Navy Lodge. Long-term operational noise would be primarily associated with increased automobile traffic on nearby roadways. No major stationary noise sources are proposed as part of the Proposed Action.

#### **Short-term Noise Impacts**

The Proposed Action would begin in the fall of 1999 and include: (1) construction of a 2-story, 50-unit Navy Lodge with playground and picnicking facilities at the Seaplane Base; (2) construction of a 63-stall parking lot; and (3) removal of the 24 mobile home units currently being used as the temporary Navy Lodge and restoration of the Seaplane Base tarmac after the new Navy Lodge is opened in the fall of 2000. A potential future addition, if implemented, would expand the proposed Navy Lodge by constructing an additional 22 lodge units and 21 parking stalls at an unspecified time in the future.

Construction noise would be temporary and would include noise from activities such as site preparation, truck hauling of material, use of cranes, and building construction.

Construction noise typically occurs intermittently and varies depending on the nature or phase of construction (e.g., demolition/land clearing, grading and excavation, erection).

Noise generated by construction equipment, including earth movers, material handlers, and portable generators, can reach high levels. Although noise ranges were found to be similar for all construction phases, the grading phase tended to involve the most equipment. The EPA has found that the noisiest equipment types operating at construction sites typically range from 88 dBA to 91 dBA at 50 feet (15 m). Typical operating cycles may involve 2 minutes of full power, followed by 3 or 4 minutes at lower settings (EPA 1971a). Table 3.4-1 lists noise levels generated by typical construction equipment at a distance of 50 feet (15 m).

**Table 3.4-1: Construction Equipment Noise Levels (dBA).**

Equipment Type	Noise Level at 50 Feet	
	Without Noise Control	With Feasible Noise Control <sup>1</sup>
<b>Earthmoving</b>		
Front Loaders	79	75
Backhoes	85	75
Dozers	80	75
Tractors	80	75
Scrapers	88	80
Graders	85	75
Truck	91	75
Pavers	89	80
<b>Materials Handling</b>		
Concrete Mixers	85	75
Concrete Pumps	82	75
Cranes	83	75
Derricks	88	75
<b>Stationary</b>		
Pumps	76	75
Generators	78	75
Compressors	81	75
<b>Impact</b>		
Pile Drivers	101	95
Jack Hammers	88	75
Pneumatic Tools	86	80
<b>Other</b>		
Saws	78	75
Vibrators	76	75

*<sup>1</sup> Estimated levels obtainable by selecting quieter procedures or machines and implementing noise control features requiring no major redesign or extreme cost (e.g., mufflers and equipment enclosures).*

Source: EPA 1971a.

Noise from localized point sources (such as construction sites) typically decreases by about 6 dBA with each doubling of distance from source to receptor. Given this noise attenuation rate, outdoor receptors within approximately 1,000 feet (305 m) of construction sites could experience maximum instantaneous noise levels of greater than 65 dBA when on-site construction-related noise levels exceed 91 dBA at the project site boundary. Based on this same assumption and assuming no noise attenuation from existing physical features or structures, construction noise levels generated during the removal of the existing 24 mobile home units could reach approximately 72 dBA at nearby Skagit Valley Junior College campus and approximately 67 dBA within the proposed Seaplane Base Historic District. In addition, noise levels generated during the construction of the proposed Navy Lodge at the hilltop site could reach approximately 75 dBA at the nearby Navy Senior Officer housing area, depending on the nature of construction activities and the proximity of sensitive receptors. As a result of these potential construction impacts, Navy regulation requires maximum use of low noise emission products and compliance with Federal and State regulations.

### **Long-Term Noise Impacts**

Increased noise levels associated with the operation of the proposed Navy Lodge would be primarily associated with increased vehicle traffic on nearby roadways. Based on the traffic analysis prepared for this EA, a majority of the project-generated vehicle trips would occur on Coral Sea and East Coral Sea Avenues. Implementation of the Proposed Action would increase average daily trips by approximately 40 percent. No roadways in the vicinity of the Proposed Action would experience a doubling of daily traffic volumes.

As discussed in Appendix D, Acoustic Fundamentals, traffic-generated noise impacts to sensitive receptors do not typically occur until several thousand vehicles per day are on a roadway. In addition, noticeable increases in ambient noise levels (3 dBA or greater) are generally not noticeable until a doubling of the number of daily trips on a roadway occurs. Operation of the proposed Navy Lodge would not double vehicle traffic on area roadways. Therefore, it is expected that the projected noise increase resulting from project-generated traffic would not noticeably increase long-term ambient noise levels at nearby sensitive receptors.

#### **3.4.2.2 No Action Alternative**

Under the No Action Alternative, the existing temporary Navy Lodge at the Seaplane Base tarmac would continue to operate. This would result in no additional construction noise. It would, however, result in continued traffic noise from Navy Lodge patrons and people that are turned away from the lodge when it is fully occupied.

#### **3.4.3 Mitigation Measures**

By implementing the following mitigation measure as part of the Proposed Action, adverse noise effects during construction would be minimized:

- N-1      The Navy will minimize noise emissions during construction in compliance with the Navy Environmental and Natural Resources Manual (OPNAVINST 5090.1B) that requires maximum use of low noise emission products, as certified by EPA, for all Navy-related operations, as well as compliance with other Federal and State regulations pertaining to construction-related noise generation. Measures to reduce construction noise will include: (1) limiting construction activities to normal daytime periods between 7 a.m. and 7 p.m. Monday through Saturday, (2) using equipment with proper mufflers or noise control devices, and (3) situating noise-generating equipment near construction activities only.

## **3.5 RECREATION RESOURCES**

This section addresses potential recreation resource impacts associated with the Proposed Action and No Action Alternative.

### **3.5.1 Affected Environment**

Outdoor recreational opportunities at the Seaplane Base include: vista viewing at Forbes Point, beachcombing along Crescent Harbor, boating at the Oak Harbor or MWR marinas, playing baseball at the NASWI/City of Oak Harbor ballfield, recreating at Earth Day Park, and visiting areas termed "Back to Nature Areas." Patrons of the existing Navy Lodge, many of whom have children, are also able to use outdoor picnic and playground facilities at the existing Navy Lodge. Approximately 30 percent of Navy Lodge patrons are children (pers. comm., Punch, 1998). Various MWR indoor recreation opportunities also exist at NASWI at Ault Field.

### **3.5.2 Environmental Consequences**

The Proposed Action would not adversely affect recreation resources since the proposed Navy Lodge would relocate the current picnic and playground facilities to the proposed site and would provide additional facilities as needed. These facilities would be located in a grassy area where children and families will have room to recreate. Many MWR programs and facilities are also available to Navy Lodge patrons. As a result, no mitigation measures for the Proposed Action are required.

Under the No Action Alternative, recreational opportunities would remain unaffected. However, other than the Earth Day Park and the ballfields adjacent to the existing Navy Lodge, the Seaplane Base tarmac area is relatively congested with vehicular traffic and is not a particularly ideal children's play area.

### **3.5.3 Mitigation Measures**

To ensure that the Proposed Action does not adversely affect safe pedestrian access to and from recreational opportunities, mitigation measure TR-1 would be implemented. This measure would provide for either a raised sidewalk or a path for pedestrians to move between the new proposed Navy Lodge and the Commissary/Navy Exchange area where many recreation facilities are located.

## **3.6 CULTURAL RESOURCES**

This section addresses potential cultural/historical resource impacts associated with the Proposed Action and No Action Alternative.

### **3.6.1 Affected Environment**

Two types of cultural resources may be potentially affected by the proposed Navy Lodge: (1) archeological resources, which may include districts, sites, or objects that have yielded or are likely to yield information important in prehistory or history; and (2) historic resources, which may include districts, sites, buildings, structures, or objects that relate or convey some aspect of American history, architecture, engineering, archeology, and/or culture. Activities that affect cultural resources are regulated by Federal, State, and local laws. The primary law affecting cultural resources is the National Historic Preservation Act (NHPA) of 1966 (16 USC § 470), as amended. NHPA requires that project proponents identify any effects its actions may have on cultural resources listed in or eligible for listing in the National Register of Historic Places (NRHP, or National Register).

The Navy completed an historic resources survey of the Seaplane Base in 1996 which identified five historic resources eligible for listing in the NRHP (Department of the Navy 1997a). These resources include: (1) the proposed Seaplane Base Historic District (including 16 contributing buildings and structures), (2) the Victory Homes Historic District (including 86 contributing buildings), and (3) 3 individual buildings. These resources were determined eligible for listing in the NRHP by the State Historic Preservation Officer (SHPO) in 1997. These resources are described in the Draft NASWI Historic Resources Survey (Department of the Navy 1997a). There are no plans to finalize this document; however, all concerns and comments have been addressed and will be incorporated into the NASWI Historic and Archeological Resources Protection (HARP) Plan, which the Navy plans to complete in 1999.

The proposed Navy Lodge would be constructed approximately 175 feet (53 m) from the nearest NRHP-eligible resource - Building 27 and the proposed Seaplane Base Historic District (Figure 3.6-1). The proposed Historic District is eligible for listing in the NRHP due to its association with important historical events surrounding World War II. It is significant on the national level for its role in the rapid development of defense

installations just prior to and during the war, and for providing training and armaments for military missions in the Pacific.

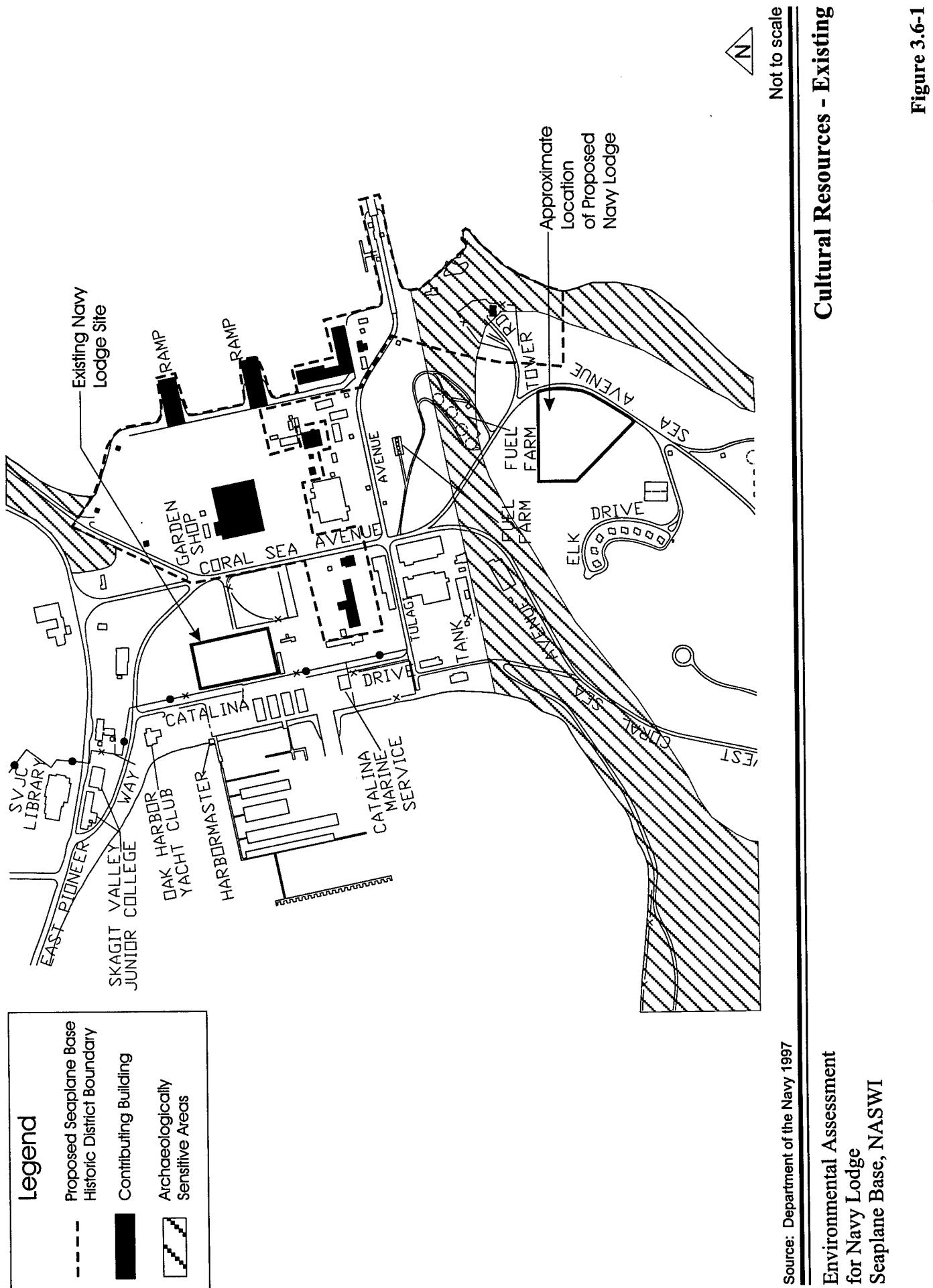
The proposed Historic District is also notable for the number of buildings that exhibit certain elements of the Art Moderne style of architecture (Department of the Navy 1997a). The proposed Navy Lodge would be located closest to the portion of the Historic District that contains the ECT, a modified Art Moderne style structure which is a contributing element to the proposed Historic District.

The Navy also completed an archeological resources assessment and protection plan of the Seaplane Base in 1997, which relocated three previously recorded sites and documented one newly discovered site and two isolated finds, for a total of six archeological resources (Department of the Navy 1997b). Surveyors were unable to relocate one other previously recorded site. The three previously recorded sites and one newly discovered site are potentially eligible for listing in the NRHP, pending formal test excavations (Department of the Navy 1997b). The archeological resources assessment also identified areas with high probability to contain archeological resources, such as current and former shoreline areas (Figure 3.6-1).

None of these sites are located at or near the proposed Navy Lodge site. The proposed Navy Lodge is not located in a high probability area to contain archeological resources. However, it would be located approximately 350 feet (107 m) from an area of archeological sensitivity (Department of the Navy 1997b). The toe of the slope, directly below the proposed site of the Navy Lodge, is a former shoreline area that may contain additional archeological resources in the general vicinity (Figure 3.6-1). This area was cut off from the water when wetland areas were filled to construct the Seaplane Base in the early 1940s.

### **3.6.2 Environmental Consequences**

Although the proposed Navy Lodge site is outside of the proposed Seaplane Base Historic District, it is visible from within the Historic District. Therefore, the Navy has consulted with the SHPO to ensure that the proposed Navy Lodge would be designed in a manner that is architecturally compatible with the proposed Historic District. The SHPO determined that the Proposed Action would have no adverse effect on the National Register-eligible Seaplane Base Historic District (letter from OAHP 1999, Appendix B). NEXCOM has agreed to design the proposed Navy Lodge to be architecturally compatible with the proposed Historic District and has forwarded architectural plans to SHPO for their review and approval. Although the proposed Navy Lodge would be visible from certain areas within the proposed Historic District, given its distance, siting, and compatible design and removal of the existing Nay Lodge trailers and rehabilitation of the tarmac would result in no adverse effects to historic resources.



The Proposed Action also includes the removal of 24 non-historic mobile home units currently used for the temporary Navy Lodge and rehabilitation of the Seaplane Base tarmac by NEXCOM and NASWI Public Works. The proposed Navy Lodge is approximately 175 feet (53 m) outside of the National Register-eligible Seaplane Base Historic District. As a result, this action would represent an enhancement for the proposed Historic District's integrity.

While the proposed Navy Lodge would be located approximately 350 feet (106 m) away from an area of archeological sensitivity, it is possible, although unlikely, that unidentified sub-surface archeological resources may be present. If such resources are present, construction could potentially damage or disturb them.

Under the No Action Alternative, the existing temporary Navy Lodge would continue to operate in its current location and no construction would occur on the hillside area proposed for the Navy Lodge under the Proposed Action. Continued use of the 24 temporary mobile home units adjacent to the proposed Historic District would be considered an incompatible long-term adjacent use. These 24 units were originally intended to be a temporary facility only. As a result, continued visual impacts to the adjacent proposed Historic District would be expected over the long term under the No Action Alternative.

Under the No Action Alternative, the proposed hillside site would remain as undeveloped open space as viewed from within the National Register-eligible Seaplane Base Historic District. Since this site would not be developed, there would be no potential for disturbance of possible archeological resources under the No Action Alternative. As a result, no effects to archeological resources would be anticipated under the No Action Alternative.

### **3.6.3 Mitigation Measures**

By implementing the following mitigation measures, adverse effects to cultural resources would be minimized:

- CR-1      The Navy will halt construction and consult with the SHPO if an unanticipated discovery of archeological resources occurs during construction. The potential significance of the resources found will be determined and appropriate mitigation measures, if any, will be identified and implemented.
- CR-2      The Navy will design and construct the proposed Navy Lodge as approved by the Washington State SHPO to ensure compatibility with the proposed Seaplane Base Historic District.
- CR-3      NEXCOM and NASWI Public Works Department will restore the Seaplane Base tarmac by removing the 24 mobile units currently being used as the Navy Lodge, capping or removing utilities, and resurfacing disturbed areas with concrete.

## **3.7 AESTHETIC/VISUAL RESOURCES**

Potential effects of the Proposed Action and No Action Alternative on aesthetics/visual resources in the vicinity of the Seaplane Base are assessed in this section. This assessment was accomplished by considering the views from key viewing locations (i.e., residential areas, main roads, designated vista points or recreational facilities, and the proposed Seaplane Base Historic District).

### **3.7.1 Affected Environment**

The proposed Navy Lodge site is currently open grassland. Only a few trees exist in the immediate area; the nearest forested stand is 0.2 mile (0.3 km) to the southwest (Figure 3.7-1). The lands surrounding the proposed site are dominated by existing NASWI facilities. The isthmus at the bottom of the hill contains numerous NASWI facilities such as the existing Navy Lodge, MWR Marina, main pier, Navy Exchange, Commissary, EOD facility, large paved areas, Oak Harbor Marina and boat ramps, and parking lots (Figure 3.7-2). Much of the developed area is within the proposed Seaplane Base Historic District.

Another prominent visual feature in the vicinity is the ECT facility located on the coastline bluff to the northeast of the proposed site. The ECT facility is a prominent visual feature because of its large white radome atop a 2-story structure. Fuel Farm No. 2, located just north of the proposed site, is also a prominent visual feature on the hillside when viewed from within the proposed Historic District. Capehart Officer housing covers much of the peninsula between Maylor and Forbes points to the south of the site; eight Senior Officer houses are located approximately 300 feet (91 m) from the proposed site, along Elk Drive.

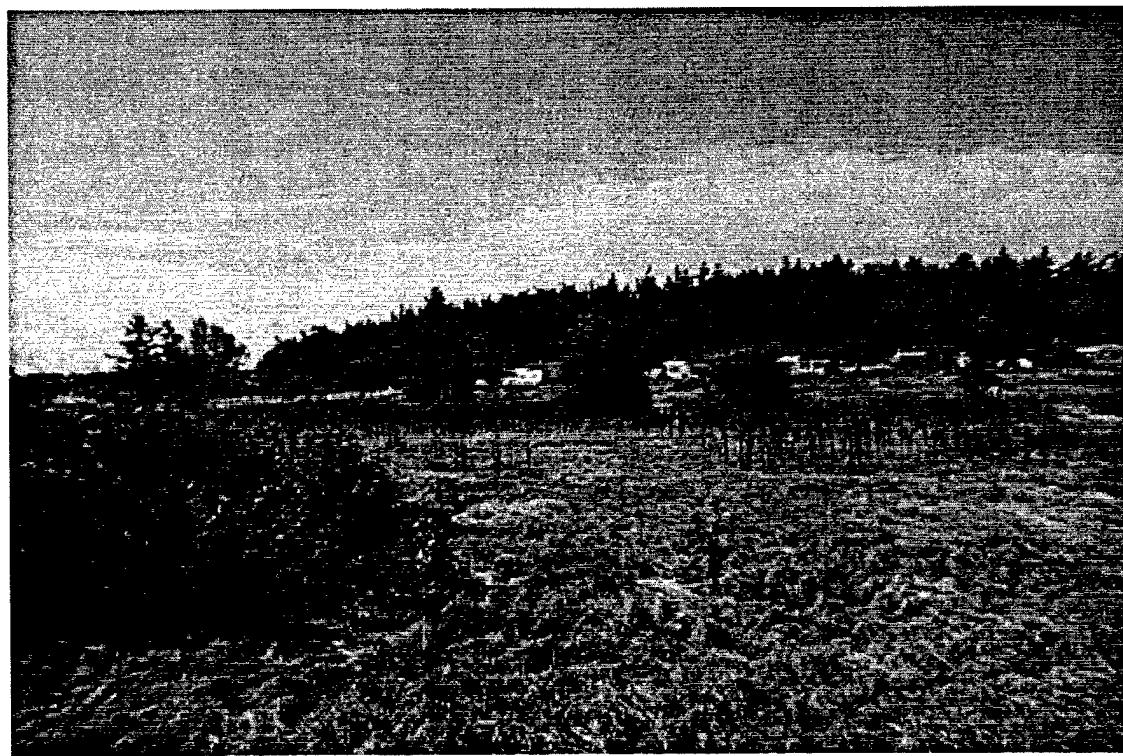
The proposed Navy Lodge site is visible from portions of these facilities, including the ECT facility to the north, across Crescent Harbor on Torpedo Road, downtown Oak Harbor along Pioneer Way, and from eight Senior Officer houses along Elk Drive to the south and west of the site (Figure 3.7-2). The proposed site is not visible from the designated vista viewing area at Forbes Point at the Seaplane Base.

### **3.7.2 Environmental Consequences**

During construction, equipment and trucks would be visible from various locations on the Seaplane Base and from the City of Oak Harbor; the graded site would also be visible. These effects are expected to occur over approximately a 10- to 12-month period.



View of the proposed site looking north along East Coral Sea Avenue.



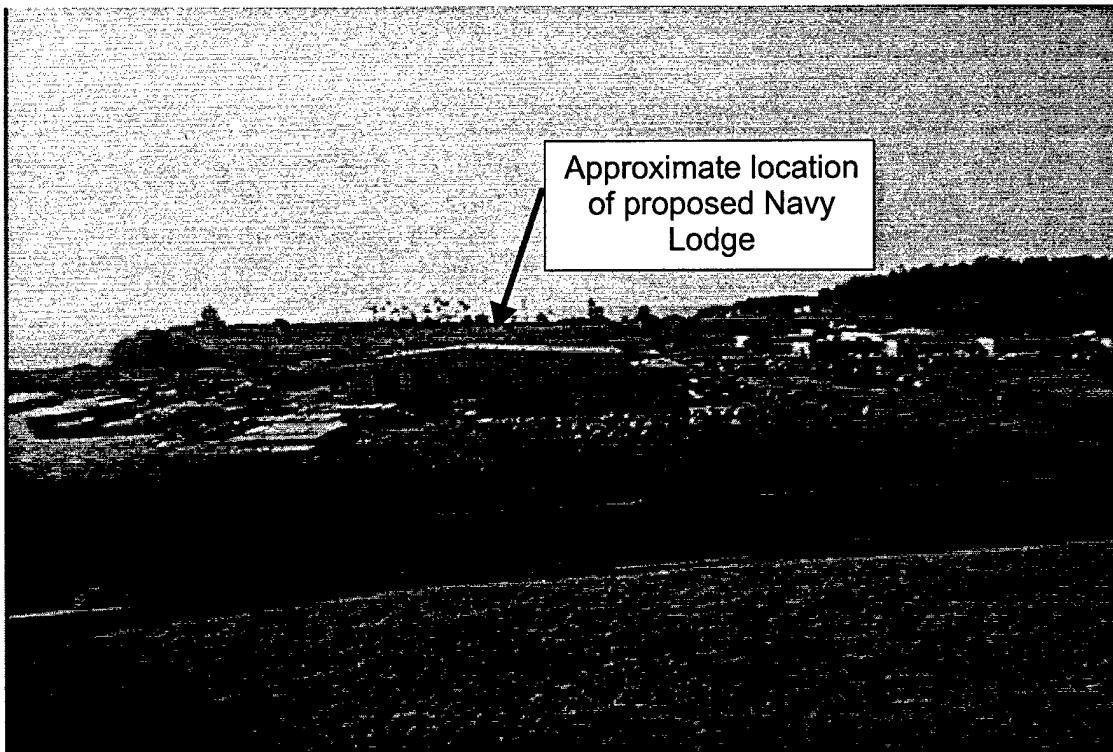
View of site looking southwest. Officer housing along Elk Drive is shown in the background.

Provided by EDAW, Inc. 1998

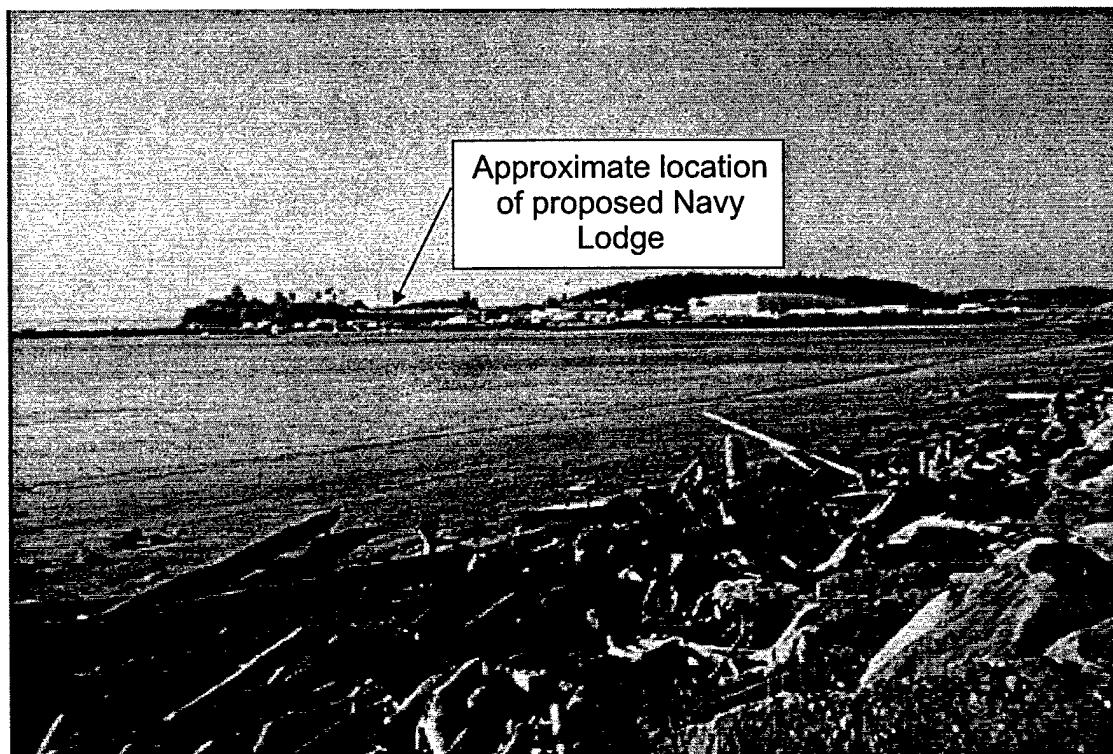
Environmental Assessment  
for Navy Lodge  
Seaplane Base, NASWI

### Existing Proximate Views - Proposed Navy Lodge Site

**Figure 3.7-1**



View looking south at the proposed Navy Lodge site from near the NASWI Building 13.



View looking southwest across Crescent Harbor from Torpedo Rd.

Provided by EDAW, Inc. 1998

Environmental Assessment  
for MWR Marina Renovation  
Seaplane Base, NASWI

#### Existing Distant Views - Proposed Navy Lodge Site

The proposed new Navy Lodge would be visible from locations noted in Section 3.7.1 and possibly other high elevation sites in the City of Oak Harbor. The primary effect of the Proposed Action on visual resources would be to convert an area of hilltop open grassland to urban development. The proposed 2-story Navy Lodge would be visible from areas near NASWI Building 13 (Public Works), Navy Exchange, the Commissary, and other points on the Seaplane Base tarmac. Overall, effects to visual resources would be minor because: (1) there are already several facilities (ECT facility, Navy housing, and fuel farms) on the hillside that are visible from the identified viewpoints; and (2) the proposed Navy Lodge would be designed to be compatible with the existing architecture of the proposed Seaplane Base Historic District. Although the proposed Navy Lodge would be approximately 175 feet (53 m) outside of the proposed Historic District, it would not cause a major adverse effect to the Historic District's character.

The proposed Navy Lodge would likely block a portion of the view from the eight Senior Officer houses on Elk Drive immediately southwest of the site.

Views from the proposed Navy Lodge would be quite pleasant, with views of Oak and Crescent harbors from the second floor units. Oak Harbor would also be visible from portions of the first floor units. These views would enhance the quality of life of Navy Lodge patrons. The Proposed Action would result in the removal of the 24 existing mobile home units from the Seaplane Base tarmac, which is just outside of the proposed Historic District boundary. Because the existing mobile home units are visible from the proposed Historic District and portions of downtown Oak Harbor, their removal and subsequent restoration of the tarmac by NEXCOM would represent an enhancement to the local visual resources.

The No Action Alternative would result in retention of the existing Navy Lodge and the open space on the hillside. Continued retention of the 24 mobile home units sited in a zig-zag pattern is considered to be undesirable for several reasons, including continued visual impacts to visitors and workers at the Seaplane Base and the proposed Historic District.

### **3.7.3 Mitigation Measures**

The Navy would design and construct the proposed Navy Lodge as approved by the SHPO, as described in Measure CR-2 and would restore the tarmac, as presented in measure C-3, to minimize effects to aesthetic/visual resources. By implementing this measure there would be minimal adverse effects to aesthetic/visual resources.

## **3.8 GEOLOGY AND SOILS**

This section addresses potential geologic or soil impacts associated with the Proposed Action and No Action Alternative.

### **3.8.1 Affected Environment**

Whidbey Island geology is the result of glacial activity that occurred within the last one million years. Glacial and interglacial deposits on Whidbey Island may be up to 3,000 feet (914 m) thick (Jones 1985). The geologic stratigraphy consists primarily of glacial outwash, glacial drift, glaciolacustrine sediments, and glaciofluvial material of the last glaciation, which occurred about 20,000 years ago.

Whidbey Island soils are located on moraines, terraces, and terrace escarpments. The soils were formed from materials weathered from the glacial activity. Twenty-three soil mapping units, comprising 14 soil series, occur at the Seaplane Base (EA 1996). The soils in the area of the proposed Navy Lodge are in the glacial upland type called Whidbey Gravelly Loamy Sand, with 5 to 15 percent slope (EA 1996). This soil series is the dominant type at the Seaplane Base, occupying nearly 29 percent of the area. Soils in this series are derived from coarse to fine textured glacial drift, developed under forest vegetation, and have good natural drainage (EA 1996). These soils have only fair suitability for agricultural uses. There is no evidence of soil contamination at the proposed site. A small fuel spill at Fuel Farm No. 2 downslope of the site was cleaned up in 1994 (Department of the Navy 1994).

### **3.8.2 Environmental Consequences**

Construction of the proposed Navy Lodge would result in minimal excavation and grading at the site. Because the site is relatively flat, very little cutting or filling would be required. Overall, approximately 2.75 acres (1.1 ha) of open space land would be disturbed by construction and replaced with the lodge building and associated driveways, paved areas, landscaping, and recreation facilities. Construction is not expected to increase erosion adjacent to the site. These soils are not particularly prone to erosion in their undisturbed state due to low annual precipitation, gentle topography, and lack of strong winds during the dry season. During construction periods, the Navy would utilize Best Management Practices (BMPs), as defined by WDOE and Island County, to minimize potential erosion effects. Since the disturbed area would be less than 5 acres (2 ha), no EPA discharge permits would be required. During future Navy Lodge operation, landscaping and stormwater drainage from the parking lot and access roads would prevent soil erosion on adjacent undisturbed areas.

Removing the existing Navy Lodge and restoring the Seaplane Base tarmac, as proposed under the Proposed Action, would not affect soils or cause any additional erosion; the area is already predominantly concrete tarmac with only small areas of lawn. Capping buried utilities would require a small amount of short-term excavation near each mobile housing unit.

Under the No Action Alternative, the geology and soils of the site would remain undisturbed and continue to function as adequately drained open space. No other effects are expected under the No Action Alternative.

### **3.8.3 Mitigation Measures**

By implementing the following mitigation measures, there would be no adverse effects on geology and soils.

- GS-1      The Navy contractor will minimize the risk of soil contamination during construction by restricting fueling and equipment maintenance to a designated staging area with an impermeable surface and a spill containment and clean-up kit.
- GS-2      The Navy contractor will implement BMPs, as defined by WDOE and Island County and outlined in the NASWI Integrated Natural Resources Management Plan (INRMP), to minimize erosion and disturbance during construction.
- GS-3      The Navy contractor will follow the standard vegetation planting practices listed in the INRMP.

## **3.9 HYDROLOGY AND WATER QUALITY**

This section addresses potential hydrologic and water quality impacts associated with the Proposed Action and No Action Alternative.

### **3.9.1 Affected Environment**

Groundwater is the primary source of drinking water on Whidbey Island. EPA has classified the groundwater of Whidbey Island as a sole source aquifer (47 FR 66, 6 April 1987). WDOE has designated Island County as a groundwater management area under WAC 173-100, ranking second in priority within the state. Island County has prepared a Ground Water Management Program (ICGWMP) to guide education, conservation, monitoring, regulation, and coordination efforts. Contamination of groundwater supplies is a major concern within Island County. There are no groundwater wells near the proposed site. The primary source of water for NASWI is the Skagit Pipeline, which transfers water to Whidbey Island from the Skagit River (EA 1996).

Recharge to the groundwater system of Whidbey Island is through infiltrating precipitation. Recharge is highest during the winter and spring when the region receives the majority of its precipitation. Natural discharge from the aquifer occurs year round as a result of groundwater outflow to the surrounding marine waters. Whidbey Island groundwater yields range between 50 and 350 gallons per minute (gpm) (211 and 1,479 l/minute), with most wells yielding less than 100 gpm (423 l/minute) (EDAW 1997). An average of 6 percent of the precipitation percolates to recharge the aquifer, and aquifer recharge is the preferred method for surface water management such as retention basins within the ICGWMP. Water tables generally follow the topography, although perched water tables exist in some locations.

Northern Whidbey Island was selected by the Island County Watershed Ranking Report (Island County 1988) as the top priority regional watershed in the county. This rank is based on existing or potential contributions of nonpoint source pollution to Puget Sound and the sensitivity of the areas receiving discharges (e.g., shellfish beds). The three watersheds with the highest rankings are Oak Harbor/Crescent Harbor, Dugualla Creek, and Penn Cove.

There are no freshwater surface water bodies in the project vicinity. The proposed Navy Lodge site is approximately 600 feet (183 m) from Crescent Harbor and 1,200 feet (366 m) from Oak Harbor. These marine waters have semidiurnal tidal fluctuations averaging approximately 10 feet (3 m) with maximum tides of about 17 feet (5 m) (Evans-Hamilton, Inc. and D.R. Systems, Inc. 1987).

Surface water runoff on Whidbey Island occurs from precipitation on soils with low infiltration rates. As indicated in Section 3.8, the soils at the proposed site have good drainage. Therefore, there is no surface runoff from the area, except for the small amount that occurs along East Coral Sea Avenue.

The existing Navy Lodge site consists almost entirely of impervious surfaces with surface water runoff to Crescent and Oak harbors. This water runoff on the Seaplane Base is handled through a system of surface roadside ditches, small grass and concrete channels in the grass areas around the family housing units, and subsurface storm drains (EA 1996).

### **3.9.2 Environmental Consequences**

Implementation of the Proposed Action would have limited effects on local hydrology and water quality. The primary management goal for surface water at NASWI is to minimize the impacts of erosion, sedimentation, and point and non-point water pollution to bodies of water (EA 1996). During construction, the removal of vegetation and upper soil layers may increase runoff. Some muddied soils might find their way into the surface water runoff and possibly into the groundwater system as a result of inclement weather during construction of the lodge. However, these amounts are expected to be negligible. The gentle terrain at the proposed site and the large area of grassland downslope of the proposed site would likely minimize runoff and any adverse effects to water quality. Disturbed areas not occupied by the built facilities would be revegetated immediately after construction.

During operation of the proposed Navy Lodge, the main effect would be an increase in impervious surface runoff. Currently, the isthmus to the south of the main developed area on the Seaplane Base has approximately 11.6 percent coverage by impervious surfaces. The proposed 2.75-acre (1.1-ha) site would increase impervious surface by 0.9 percent, to approximately 12.5 percent. This small increase is not likely to significantly increase runoff. Operation of the proposed Navy Lodge would be consistent with current land use practices and is not expected to cause additional effects to the hydrologic environment.

Operation of the proposed Navy Lodge would slightly increase vehicular traffic on Coral Sea and East Coral Sea Avenues and small amounts of oil and gasoline leakage. All runoff from paved areas would be collected into the existing NAWSI stormwater drainage system.

Restoration of the Seaplane Base tarmac under the Proposed Action would slightly increase the amount of impervious surface by eliminating the small lawn areas associated with the 24 mobile housing units. This is not expected to cause adverse effects to surface water.

Under the No Action Alternative, the hydrology and water quality of the site would remain undisturbed and continue to function as a well-drained development. No other effects are expected under the No Action Alternative.

### **3.9.3 Mitigation Measures**

Mitigation measures GS-1 through GS-3 would be implemented by the Navy and would adequately minimize potential effects to hydrology and water quality.

## **3.10 VEGETATION AND WILDLIFE RESOURCES**

This section addresses potential vegetation, fish, and wildlife resources associated with the Proposed Action and No Action Alternative.

### **3.10.1 Affected Environment**

The following sections describe the vegetation and wildlife resources in the project vicinity of the Proposed Action, as well as potential impacts associated with the Proposed Action and No Action Alternative. No fishery resources are in the immediate vicinity of the proposed Navy Lodge site.

#### **3.10.1.1 Vegetation**

The vegetation at the proposed Navy Lodge site is dominated by various grass species-clover (*Trifolium* spp.), Canada thistle (*Cirsium arvense*), and annual weeds.

Grassland/agricultural land comprises the largest component of vegetative cover on the Seaplane Base (26 percent) (EA 1996). There are a few scattered Douglas-fir (*Pseudotsuga menziesii*) and Oregon white oak (*Quercus garryana*) trees near the proposed construction site.

#### **3.10.1.2 Terrestrial Wildlife**

There are approximately 60 water and shorebirds, 83 land-based bird species, and 17 terrestrial mammals that are common at NASWI, at least during parts of the year (EA

1996). The monotypic grassland limits wildlife species diversity at the proposed Navy Lodge site. A number of bird species do make use of the scattered trees near the site.

The only amphibian and reptile species potentially occurring in this grassland habitat are the long-toed salamander (*Ambystoma macrodactylum*), Puget Sound garter snake (*Thamnophis sitalis pickeringi*), and northwestern garter snake (*T. ordinoides*) (EA 1996). Mammals that may occur on or near the proposed site include coyote (*Canis latrans*), cottontail rabbit (*Sylvilagus floridanus*), Douglas squirrel (*Tamiasciurus douglasii*), mice (*Peromyscus* sp.), voles (*Microtus* sp.), and moles (Family Talpidae) (EA 1996).

The grassland habitat found on site may represent habitat for neotropical migrant bird species, such as the savannah sparrow (*Passerculus sandwichensis*), American goldfinch (*Carduelis tristis*), and American robin (*Turdus migratorius*) (EA 1996). The Oregon vesper sparrow (*Pooecetes gramineus affinis*) is another species that may utilize surrounding habitats and could possibly be observed on site. Significant forest and shrub habitat exists in the surrounding landscape and most likely supports breeding populations of neotropical migratory birds such as Townsend's warbler (*Dendroica townsendi*), western tanager (*Piranga ludoviciana*), and Pacific-slope flycatcher (*Empidonax difficilis*). The species of utmost concern is the bald eagle (*Haliaeetus leucocephalus*), a local resident and breeder. Discussion of bald eagle issues can be found in the Threatened and Endangered species section below.

### **3.10.1.3 Threatened and Endangered Plant and Wildlife Species**

The golden paintbrush (*Castilleja levisecta*), a Federally listed threatened plant species and State-listed endangered species, occurs at Forbes Point (EA 1996; Letter from Washington Department of Natural Resources [WDNR] 1998). This population is restricted to a small fenced area adjacent to the Forbes Point viewpoint approximately 0.5 mile (0.8 km) from the proposed Navy Lodge site. The species is currently known only from 10 sites in Washington and two in British Columbia (WNHP and BLM 1997). Golden paintbrush occurs in meadows, grasslands, prairies, and open woodlands. Fire is thought to have historically played a key role in the maintenance of the open prairie habitats occupied by this species.

The bald eagle, a threatened species under the Federal Endangered Species Act (ESA) and Washington State ESA, is known to occur near the proposed site (letter from the U.S. Fish and Wildlife Service [USFWS] 1998; letter from Washington Department of Fish and Wildlife [WDFW] 1998). The Navy prepared a Bald Eagle Management Plan (BEMP) for NASWI (EDAW 1996) and has collected over one year of observational data at the Seaplane Base. These observations indicate that bald eagles occur near the proposed lodge site on a year-round basis. Along with an active nest approximately 3 miles (4.8 km) east of the proposed site, a pair of eagles constructed a nest on NASWI property on Maylors Point (EDAW 1996) roughly 0.5 mile (0.8 km) to the southwest of the proposed Navy Lodge site. This nest was first documented in March 1996 but has since been damaged by high winds and was not active in 1998. A new nest was

constructed in the spring of 1998 approximately 600 feet (183 km) to the west of the original nest site. The nest is active in 1999.

The shorelines of Forbes Point and Crescent Harbor are regularly used by as many as nine bald eagles at a time. These eagles perch on live trees and snags along the shoreline, including several on the opposite side of East Coral Sea Avenue from the proposed site (EDAW 1996). The grassland at the site does not represent potential bald eagle perching or foraging habitat.

The only other Federal threatened or endangered wildlife species protected under the ESA that could potentially occur in the project vicinity are the marbled murrelet (*Brachyramphus marmoratus*) and peregrine falcon (*Falco peregrinus*). The marbled murrelet, a threatened species, forages on small fish and flies to old-growth conifer forests for nesting. Marbled murrelets are commonly observed foraging in the less disturbed portions of Crescent Harbor at or near Polnell Point, approximately 2.5 miles (4 km) from the project (EDAW 1997).

The peregrine falcon, an endangered species, occupies a nesting territory near the Skagit River delta, approximately .7 miles (11 km) from the Seaplane Base (EDAW 1997). However, it is unlikely that the peregrine falcon occurs near the proposed Navy Lodge, even as a transient visitor, given the level of activity and disturbance.

### **3.10.2 Environmental Consequences**

Construction of the proposed Navy Lodge and associated parking area would result in a temporary disturbance and loss of 2.75 acres (1.1 ha) of grassland wildlife habitat. The construction period would last approximately 10 to 12 months. The potential future addition would require up to 10 months and occur during an unknown year in the future. Mammals and passerine bird species potentially occurring in the area that are mobile would be displaced from the 2.75-acre (1.1-ha) site during and after construction. Less mobile species, such as voles, moles, and insects, may be killed by construction activities.

Given the distance from the potential eagle nesting habitat to the proposed site, and the lack of recent nesting activity at the site, construction activity is not likely to affect nesting bald eagles even if nesting occurs at the site 0.5 mile (0.8 km) to the southwest of the proposed Navy Lodge Site. Temporary construction noise associated with the Proposed Action could potentially disturb bald eagles that perch along the bluff to the east of the proposed site. However, the USFWS has indicated that the Proposed Action is not likely to adversely affect the bald eagle as long as mitigation measures identified in the BEMP are implemented during the project (letter from USFWS, 1998 [Appendix B]). These include maintaining adequate buffers around nest sites, preserving all trees that may serve as perch sites, and monitoring bald eagle use in the project vicinity during construction activity (EDAW 1996).

There are no known standards for acceptable noise levels for bald eagles (EDAW 1997). EPA (1971b) has indicated that a level of 85 dB is required to scare birds (species unknown). Ellis (1981) summarized the possible effects of noise on nesting raptors,

which include: (1) temporary nest abandonment causing exposure of eggs or young to inclement or severe weather, (2) physiological stress leading to reduced reproductive success, (3) permanent nest abandonment, and (4) death of young due to premature fledging. The degree of disturbance depends on the level of noise the bald eagles are accustomed to; eagles that use areas with higher noise levels may be less susceptible to disturbance than eagles not used to loud noises. Bald eagles are often disturbed more by pedestrians than vehicles or machinery (Stalmaster 1987).

The Proposed Action is unlikely to adversely affect the threatened marbled murrelet, since this species tends to forage far out in Crescent Harbor at Polnell Point away from the Navy Lodge site. The Proposed Action is unlikely to adversely affect the endangered peregrine falcon since the only known breeding territory is located 7 miles (11 km) away and the falcon is unlikely to use the project vicinity due to high levels of disturbance.

The Proposed Action would not affect the golden paintbrush population at Forbes Point since the entire population is within a fenced area at the Point. Although the proposed lodge site is located in grassland, this area does not represent potential habitat for this plant species; the herbaceous layer is too dense and is dominated by exotic weedy species.

The No Action Alternative would not affect vegetation or wildlife resources. No fishery resources are located in the immediate vicinity of the existing Navy Lodge on the tarmac. The proposed site would continue to function as open space and to provide habitat, however minimal, for the few species that exist in the area. The existing Navy Lodge site is concrete tarmac and provides no habitat value.

### **3.10.3 Mitigation Measures**

By implementing the following mitigation measures, there would be no adverse effects to vegetation and wildlife resources including, threatened and endangered species:

- VWR-1    The area disturbed during construction will be minimized, all trees outside of the construction area will be maintained, and temporarily disturbed areas will be revegetated with native plant species beneficial for wildlife following guidelines in the INRMP.
- VWR-2    During construction activities, the Navy will continue to observe bald eagles at the Seaplane Base as described in the NASWI Bald Eagle Management Plan. If nesting activity is noted within 1,312 ft (400 m) of the construction site, the Navy will adhere to requirements of the BEMP for construction practices.

Mitigation of construction effects on vegetation and wildlife resources will also be accomplished by implementation of mitigation measures GS-1 through GS-3.

## **3.11 ENVIRONMENTAL HEALTH HAZARDS**

This section addresses potential environmental health hazards associated with the Proposed Action and No Action Alternative, particularly those important to children.

Executive Order 13045, dated April 21, 1997, requires that Federal agencies "shall make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children; and shall ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks." The following issue(s) require discussion of the potential for disproportionate effects on children: hazardous materials and pedestrian-vehicle traffic interface.

### **3.11.1 Affected Environment**

As many as 30 percent of the total NASWI Navy Lodge patrons are children. The number of children staying in the Navy Lodge is typically greatest during the summer. Children of Navy Lodge patrons often remain in or near the Navy Lodge during the time that the parent is at work. These children are therefore dependent on a safe environment and outdoor recreational opportunities. The existing Navy Lodge provides picnic and playground facilities and is within easy walking distance of Earth Day Park, the NASWI/City of Oak Harbor ballfield, Navy Exchange and Commissary, and MWR Marina. However, vehicle traffic in the area makes unsupervised pedestrian traffic potentially hazardous to young children as well as adults.

The proposed site is located on an underdeveloped hilltop west of East Coral Sea Avenue. Various land uses are found in the vicinity as described in Section 3.1, Land Use.

### **3.11.2 Environmental Consequences**

The proposed Navy Lodge would be located upslope of two fuel farms (370 and 900 feet [113 and 274 m] away) used to store liquid petroleum fuels. There is also an above-ground 4-inch (10 cm) fuel line that parallels the east side of East Coral Sea Avenue directly across from the proposed Navy Lodge site. In 1988, the Fuel Farm No. 2, located southeast of the proposed site, experienced a release of JP-5 fuel that flowed over the land surface and through pipelines toward Crescent Harbor, saturating the soil (GeoEngineers 1988). Since then, the contaminated soil has been cleaned up and both fuel farms are now equipped with fuel spill containment equipment to prevent future leakage under the Washington State Model Toxics Control Act (Department of the Navy 1994). NASWI safety specialists have reviewed the Proposed Action and have concluded that the two existing fuel farms and above-ground fuel line do not represent a significant health risk to Navy Lodge patrons, including children (Appendix B).

The proposed Navy Lodge site is located outside of all Explosive Ordnance Disposal (EOD) Quantity Distance safety arcs (Department of the Navy 1988). Therefore, there is no significant risk of ordnance-related hazards at the proposed site.

The nearby ECT facility emits electromagnetic radiation as part of its operations directed at distant aircraft used during Navy training missions. The proposed Navy Lodge would be located approximately 670 feet (204 m) from the existing ECT facility at the Seaplane Base. This distance is well outside of the 120-foot (37 m) Hazards from Electromagnetic Radiation to Personnel (HERP) safety arc. This safety arc is required for all habitable structures on Naval installations (Department of the Navy 1997c). The proposed site is also well beyond the 32 to 107 feet (10 to 33 m) HERP safety separation distance (Department of the Navy 1997d). This safety separation distance applies to individuals unknowingly walking around the ECT facility while it is operating. As a result, there is no significant risk of electromagnetic radiation hazards at the proposed site.

Under the No Action Alternative, the existing temporary Navy Lodge on the Seaplane Base tarmac would continue to operate. This would result in no changes in potential environmental health hazards to Navy Lodge patrons, including children. However, because of traffic in the area, this location is not ideal for young children who may be recreating outdoors.

### **3.11.3 Mitigation Measures**

Mitigation measure TR-1 would be implemented by NEXCOM and NASWI as part of the Navy's compliance with Executive Order 13045 and NEPA to ensure safe pedestrian access from the proposed site to the Navy Exchange and Commissary area.

## **3.12 ENVIRONMENTAL JUSTICE**

This section addresses potential environmental justice issues associated with the Proposed Action and No Action Alternative.

### **3.12.1 Affected Environment**

In February 1994, the President issued Executive Order 12898 that requires all Federal agencies to seek to achieve environmental justice by "identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations" (Executive Order 12898). The DoD followed in March 1995 with its Strategy on Environmental Justice to meet the intent of Executive Order 12898, which the EPA approved in April 1995. The Navy established policies and assigned responsibilities with the goal of preventing disproportionately high and adverse human or environmental effects on minority and low-income populations. The strategy states that DoD would use NEPA as the primary mechanism to implement the provisions of the Executive Order. In response to this strategy, the Navy is making this EA available to State and local governments, the Swinomish and Samish Tribes, and other organizations so that possible concerns about the potential effects of the Proposed Action can be expressed.

Island County exhibits a lower percentage of racial and ethnic minorities (other than Hispanic) than Washington State as a whole. Compared to the nation as a whole, Island County has a lower percentage of Blacks and Hispanics. Approximately 23 percent of the population is composed of males between 20 and 23 years of age (Department of the Navy 1988). Demographic data for Island County are presented in Table 3.12-1.

The proposed site is near existing residences but not near a predominantly minority or low-income community.

**Table 3.12-1: Island County 1990 Population Characteristics.**

Race/ Ethnicity	Island County		Washington State		United States	
	Number	Percent	Number	Percent	Number	Percent
White	55,093	89.7%	4,308,937	88.5%	199,686,070	80.3%
Black	1,552	2.5%	149,801	3.1%	29,986,060	12.1%
Native American	536	0.9%	81,483	1.7%	1,959,234	0.8%
Asian/ Pacific Islander	2,397	3.9%	210,958	4.3%	7,273,662	2.9%
Hispanic (any race)	1,855	3.0%	115,513	2.4%	9,804,847	3.9%
Total	61,433	100.0%	4,866,692	100.0%	248,709,873	100.0%

*Source: U.S. Bureau of the Census 1992*

### **3.12.2 Environmental Consequences**

Construction and ongoing operation of the proposed Navy Lodge would not have a significant adverse effect on minority or low income communities, including Native American Tribes. In fact, the intent of the proposed Navy Lodge is to further assist lower income Navy families and DoD personnel by providing temporary affordable housing close to the workplace. No significant increases in pollution or health risks are anticipated as a result of the Proposed Action.

The No Action Alternative would have no effect on environmental justice.

### **3.12.3 Mitigation Measures**

By implementing the following mitigation measure, the Navy would comply with Executive Order 12898 and NEPA:

- EJ-1      The Navy will distribute this EA in compliance with Executive Order 12898 and NEPA to the Swinomish and Samish Tribes to ensure that these minority groups receive adequate information concerning the Proposed Action. Requests from any minority or ethnic groups or organizations for information and/or copies of this EA will be met in a timely manner by the Navy.

### **3.13 ENVIRONMENTAL RESOURCES CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS**

Five resource topics related to the Proposed Action and No Action Alternative were found to have no, minimal, or negligible effects and are briefly discussed below.

#### **3.13.1 Wetlands**

The National Wetlands Inventory (NWI) has identified estuarine wetlands along the shorelines to the northeast and south of the MWR Marina; no wetlands occur within the proposed Navy Lodge area. The Proposed Action would not affect wetland resources. The potential for off-site effects would be minimized by implementation of mitigation measures GS-1 through GS-3 described in Section 3.8.

The No Action Alternative would not affect wetland resources at the Seaplane Base.

As no significant impacts are anticipated, no mitigation measures are required as part of the Proposed Action or No Action Alternative.

#### **3.13.2 Socioeconomics**

In 1992, the permanent population of Island County's north Whidbey Island planning unit, which encompasses most of NASWI and all of the Seaplane Base, was approximately 35,700 persons and is expected to increase by 3,800 (an annual average rate of 1.1 percent) by the year 2003 (Island County 1994). Most of the people in this area live in the City of Oak Harbor and in military housing at NASWI. As of 1995, the City of Oak Harbor population was 19,800 persons (pers. comm., Shelton, 1996). The NASWI population as of April 1996 was 5,051 (pers. comm., Shaddy-Brown, 1996).

In 1992, there were 16,203 employment opportunities in the north Whidbey Island planning unit. Employment in this region is forecasted to grow by 2,784 jobs by the year 2003 (Island County 1994). Within north Whidbey Island, most jobs are associated with government, military, retail, or service sectors, with most jobs occurring in or near the City of Oak Harbor.

The Proposed Action would result in a short-term increase in construction jobs during the initial 10- to 12-month construction period of up to 25 workers at a time, although some of the work may be conducted by current NASWI Public Works Department personnel. A potential future addition of 22 units construction would also increase construction jobs during a 6- to 10-month construction period sometime in the future. Long-term Navy Lodge employment would increase from 12 to approximately 18 employees under the Proposed Action (pers. comm., Punch, 1998).

The Proposed Action would result in an additional 27 lodging units equipped with kitchen facilities that are priced in accordance with Navy guidelines for PCS transfers and their families (DoD Financial Management Regulations, Vol. 9, Travel Policy and Procedures, Dec. 1996. DoD 7000.14-R). Enhancing the Navy lodging opportunities at

NASWI would help ensure that Navy families moving into the community are able to enjoy a good quality of life and be located close to Navy family support facilities. The Proposed Action would also likely result in the increased attraction of DoD retirees to the Oak Harbor area because of the quality and location of the proposed new Navy Lodge. Additional Navy families and retirees would also be expected to benefit local businesses, particularly in the Oak Harbor area.

The Proposed Action could cause a temporary reduction in the demand for and the occupancy of commercial lodging units equipped with kitchen units in the Oak Harbor area. Due to a lack of comprehensive area-wide lodging data, the actual level of impact is difficult to determine. However, based on a review of current lodging capacity in Oak Harbor, five of the six commercial motels in the Oak Harbor area have kitchen units and would be potentially affected by the Proposed Action (Table 3.13-1). An estimated 304 commercial motel units are available in the Oak Harbor area of which 54 (18%) have kitchen units. The Navy estimates that, on average, 257 PCS transfers are turned away per month from the existing Navy Lodge. This equates to about 9 transfers per day on average. Assuming that the 9 families turned away each day would then attempt to find temporary lodging at a local commercial facility in the Oak Harbor area, the 9-unit reduction represents less than 16 percent of all Oak Harbor units with kitchens. Because many PCS transfers occur during the summer tourist season when commercial motel occupancy is greatest and few affordably priced units are available, Navy families and the general public compete for the same kitchen units during this busy season. The pricing of many of these commercial units also typically exceeds Navy pricing guidelines (DoD Financial Management Regulations, Vol. 9, Travel Policy and Procedures, Dec. 1996. DoD 7000.14-R). As the population and tourist industry increase in the Oak Harbor area, any temporary reduction in demand caused by the Proposed Action would likely be replaced by private-sector demand.

**Table 3.13-1: Summary of Oak Harbor Commercial Lodging Facilities.**

Local Commercial Facility	Total Rooms	Rooms with Kitchen Units
Acorn Motor Inn	32	6
Auld Holland Inn	34	5
Best Western Harbor Plaza	80	0
Coachman Inns of America	120	20
North Whidbey Inn	16	16
Queen Ann Motel	22	4 full + 3 partial
<b>TOTAL</b>	<b>304</b>	<b>54</b>

The Proposed Action would substantially increase revenue from Navy Lodge operations that would then be available for funding various MWR facilities and programs at NASWI. This would benefit both Navy Lodge patrons and other MWR program participants.

The No Action Alternative would forego any increase in short-term or long-term jobs related to the Proposed Action. The No Action Alternative would also forego any potential increase in funding for MWR-related needs.

Since potential socioeconomic effects are expected to be beneficial, no mitigation measures are required as part of the Proposed Action or No Action Alternative.

### **3.13.3 Public Services**

Public services examined in this EA include law enforcement, fire protection, emergency spill response, emergency medical, and solid waste handling.

The NASWI Security Police are responsible for all law enforcement on a 24-hour basis at NASWI, including the existing and proposed Navy Lodge. Law enforcement in the nearby City of Oak Harbor is provided by the Oak Harbor Police Department. The North Precinct of the Island County Sheriff's Department, located at 6th and Main Streets in Coupeville, is responsible for law enforcement in unincorporated portions of Island County from south of Coupeville to Deception Pass. There are 35 Deputies and 1 Sheriff, or approximately 0.6 officers/1,000 residents in the Island County Sheriff's Department that patrol Whidbey and Camano islands. The Washington State Patrol is responsible for patrolling the SR 20 corridor.

The proposed Navy Lodge would be equipped with automatic fire alarms and sprinkler systems. A radio reporting alarm system has recently been introduced in some buildings at the Seaplane Base and would be installed in the proposed Navy Lodge facility. Fire protection and emergency medical services on Navy property would be provided by the NASWI Fire Department from a station located just west of the MWR Marina near the intersection of Coral Sea Avenue and Tulage Avenue. In the case of fire at the Navy Lodge, the Navy may be assisted by the City of Oak Harbor and/or Island County Fire Departments. This assistance would be voluntary and is based on a County-wide Mutual Assistance Agreement (pers. comm., Biller, 1996). The nearest non-military fire station is located in the City of Oak Harbor at the intersection of 400 Avenue West and 60<sup>th</sup> Street NW.

Emergency medical services are provided by NASWI emergency medical technicians and ambulatory services. A Navy hospital is located near Saratoga Street at Ault Field, approximately 4.3 miles (6.9 km) from the proposed site. Whidbey General Hospital, 10 miles (16 km) south of the proposed site in the town of Coupeville, is the nearest non-military emergency medical facility.

Solid waste management and recycling services for the proposed Navy Lodge would be handled by the NASWI Public Works Department, with waste hauled off the island to approved landfills.

Although the number of proposed Navy Lodge units would increase the number of visitors to the area, demand for law enforcement services would not significantly increase since the Navy Lodge would represent a very small portion of the activity at the Seaplane Base. A much greater level of activity occurs at the Navy Exchange, Commissary, and

other facilities. Military Security Police would continue to provide law enforcement services at the proposed Navy Lodge. The Proposed Action would not significantly increase the need for community medical or emergency services, or for solid waste disposal.

The No Action Alternative would not affect public services in the area. Public services would still continue to be needed at the current level.

Because there are no significant adverse effects, no mitigation measures are required as part of the Proposed Action or No Action Alternatives.

### **3.13.4 Schools**

The nearest schools to the proposed Navy Lodge site are: (1) Skagit Valley Junior College (Whidbey Branch) along East Pioneer Way near the western boundary of NASWI, (2) Olympic View Elementary on 70th Street NE, and (3) Oak Harbor Elementary School on Midway Boulevard. These schools are approximately 0.4, 1.0, and 1.3 miles (0.6, 1.6, and 2.1 km) from the proposed Navy Lodge site, respectively.

A portion of Navy Lodge patrons are school-age children. Approximately 30 percent of all patrons are children of all ages, with the peak number of children occurring during the summer months when transfers are highest. Patrons stay at the Navy Lodge anywhere from a few days to a couple of weeks (pers. comm., Punch, 1998). NASWI employment and PCS transfers have the potential to increase or decrease school enrollment in the Oak Harbor or other Island County school districts. The proposed Navy Lodge, however, is only a temporary housing facility and does not affect the number of PCS transfers or NASWI new hires. As a result, patrons of the proposed Navy Lodge would not directly affect school enrollment or school facilities needed. The No Action Alternative would also have no effect on school enrollment.

The proposed Navy Lodge would employ approximately six additional employees to operate the new larger facility. Some of these new employees may be new to the area and may have school-age children who would be enrolled in Oak Harbor or other Island County schools. However, this potential increase in enrollment is considered minimal and not significant. The No Action Alternative would not increase the number of new employees.

As no significant impacts are anticipated, no mitigation measures are required as part of the Proposed Action or No Action Alternative.

### **3.13.5 Utilities**

The proposed Navy Lodge would require potable water, sanitary sewer, storm sewer, and energy/communications services. Private utility companies servicing the Seaplane Base include Puget Sound Energy, Cascade Natural Gas, GTE Telephone, and TCI Cable. Other utilities are provided by the City of Oak Harbor and the NASWI Public Works Department. Prior to construction, all proposed Navy Lodge site plans and construction

documents would be reviewed and approved by the NASWI Public Works Department for compliance with all applicable Navy regulations. These services are described below.

### **3.13.5.1 Water**

Water service, capacity, and pressure are adequate to serve the proposed Navy Lodge (48 additional units) and provide water for fire suppression. An existing water supply line located along East Coral Sea Avenue would provide both fire protection and domestic service to the proposed Navy Lodge. Water for NASWI is supplied by the City of Oak Harbor's water transmission system. The City of Oak Harbor receives its water from the City of Anacortes (Department of the Navy 1988). Water is transmitted by the Navy to the Seaplane Base through a 10-inch (25-cm) diameter line from a storage tank at Ault Field. The Seaplane Base distribution grid has two 1 million gallon (4.25 million l) tanks and 6- and 10-inch (15- and 25-cm) lines. The capacity of the water system is adequate for anticipated uses at NASWI (Department of the Navy 1988), including the Proposed Action.

Since water lines already serve the area near the proposed Navy Lodge, only minor on-site waterline extensions would be required as part of the Proposed Action. Use of machinery for trenching and construction activities may increase the risk of contamination of surface and groundwater, although the risk would be minimized through the use of BMPs. Increased Navy Lodge occupancy would slightly increase water consumption at NASWI. This increase is not expected to be significant relative to the current level of water consumption at NASWI.

The Proposed Action would also require the capping of water lines currently servicing the existing 24 mobile home units after the units are removed in the year 2000. This would be accomplished by excavating portions of the lines, properly capping the lines, backfilling if needed, and pouring concrete to restore the tarmac. This is not expected to affect water service in the area.

The No Action Alternative would not significantly affect water service in the area.

### **3.13.5.2 Sanitary Sewer**

Sanitary sewer capacity and service are adequate to serve the proposed Navy Lodge (48 additional units). The Seaplane Base has a 16.8-acre (6.8-ha) sewage stabilization lagoon with a treatment capacity of 2 million gallons (8.5 million l) per day. The City of Oak Harbor operates this facility and provides sanitary sewer service to the Navy. An existing 8-inch (20-cm) force main serves the area near the proposed Navy Lodge site (Department of the Navy 1988). A new 8-inch (20-cm) line would connect the proposed Navy Lodge to the existing sewer system. Future increased Navy Lodge occupancy may result in a small increase in sewage flow requiring treatment. This increase would be within the system capacity and is not expected to be significant.

The Proposed Action would also require the capping of sewer lines currently servicing the existing 24 mobile home units after the units are removed in the year 2000. This

would be accomplished by excavating portions of the lines, properly capping the lines, backfilling if needed, and pouring concrete to restore the tarmac. This is not expected to affect sanitary sewer service in the area.

The No Action Alternative would not significantly affect sanitary sewer service in the area.

### **3.13.5.3 Storm Sewer**

Storm sewer capacity and service are adequate to serve the proposed Navy Lodge (48 additional units). An existing storm sewer system, including pipelines, culverts, swales, and detention ponds, serve the Seaplane Base area and outfalls to Crescent and Oak harbors. The system includes 8- and 10-inch (20- and 25-cm) gravity lines (Department of the Navy 1988). The Proposed Action would increase impervious surface by 0.9 percent on the peninsula south of the developed area of the Seaplane Base and is not expected to significantly affect stormwater runoff rates. A combination of swales and culverts would be used to drain surface water away from the proposed site. To ensure compatibility and compliance prior to construction, the proposed Navy Lodge site plans and construction documents would be reviewed by NASWI Public Works Department for compliance with all Navy regulations.

In general, construction activities associated with the Proposed Action have the potential to generate a variety of pollutants such as sediment, diesel fuel, motor oil, paints, solvents, and cement. Water quality problems can potentially arise if these pollutants are released to the environment and transported to water bodies via stormwater runoff. Construction of the proposed Navy Lodge is not likely to affect surface waters; however, several control measures during and after construction would be implemented by the Navy to minimize the potential for off-site degradation (see Section 3.8).

At the existing Navy Lodge, existing storm sewer connections would be capped as necessary under the Proposed Action. No impacts to the storm sewer system are anticipated.

The No Action Alternative would not affect water resources, including groundwater.

### **3.13.5.4 Energy/Communications**

Energy and communication services and capacity are adequate to serve the proposed Navy Lodge (up to 48 additional units). Existing energy and communications at the Seaplane Base include electricity, natural gas, telephone, and cable television. Puget Sound Energy provides electrical service to NASWI via a 12.4 to 2.4 kilovolt (kV) Navy-owned distribution substation near Coral Sea Avenue. This 12.4 kV distribution system services facilities near the proposed Navy Lodge site and has adequate capacity (Department of the Navy 1988). Only minor on-site extension of the existing electrical system would be required to provide service to the proposed Navy Lodge site as part of the Proposed Action. The Proposed Action would increase electrical use because of the additional 48 units under the Proposed Action and potential future addition. However,

modern construction methods and use of a single 2-story structure should substantially increase efficiency. This increased use and the line extension would not affect availability of electricity at NASWI or in the Oak Harbor area.

At the existing Navy Lodge, existing electrical connections, including light standards, would be capped as necessary under the Proposed Action. No impacts to the electrical system are anticipated.

Cascade Natural Gas Company operates a natural gas distribution system at NASWI. Existing gas lines run along East Coral Sea Avenue. Adequate capacity exists to service the proposed Navy Lodge (up to 48 additional units). Only minor extension of the natural gas system would be required to serve the proposed site. At the existing Navy Lodge, existing natural gas lines would be capped as necessary under the Proposed Action. No impacts to the natural gas system are anticipated.

Existing GTE telephone service and TCI Cable television are available at the Seaplane Base. Adequate capacity exists to service the proposed Navy Lodge (up to 48 additional units). Only minor extensions of the telephone and cable television systems would be required to serve the proposed site. At the existing Navy Lodge, existing telephone and cable television lines would be cut as necessary under the Proposed Action. No impacts to these systems are anticipated.

As no significant adverse effects associated with utilities would occur as a result of the Proposed Action, no mitigation measures are required. The No Action Alternative would not affect utilities.

## 4.0 CUMULATIVE AND LONG-TERM ENVIRONMENTAL EFFECTS

### 4.1 CUMULATIVE EFFECTS

Cumulative effects are typically defined as two or more individual effects which, when considered together, compound or increase other environmental effects. Cumulative effects can derive from the individual effects of a single project on various resources or the effects of several past, present, and/or future projects on these resources. Thus, cumulative effects can result from individually minor but collectively significant actions taken over a period of time. The existing and future projects with the greatest likelihood of contributing to cumulative effects with the Proposed Action include the proposed MWR Marina expansion/improvements at the Seaplane Base, and the construction of a gas station near the Navy Exchange/Commissary, also at the Seaplane Base. The proposed marina improvements could occur within the next several years (by 2005) and would include expansion to 200 slips and installation of floating pumps and a breakwater. The proposed gas station is scheduled to be operational by the year 2000.

No adverse effects were identified for the Proposed Action for wetlands, socioeconomic, public services, schools, or utilities. Therefore, no cumulative effects are anticipated for these resource topics.

Potential cumulative effects associated with the Proposed Action are discussed below for the following resources: land use; climate and air quality; traffic; noise; recreation; cultural resources; aesthetics/visual resources; geology, soils, and sediment; hydrology and water quality; vegetation, wildlife, and fishery resources; environmental health; and environmental justice.

In addition, the No Action Alternative is discussed relative to cumulative effects resulting from no expansion of the existing temporary Navy Lodge.

#### 4.1.1 Land Use

The Proposed Action would result in a change of land use, as the proposed Navy Lodge project would convert existing undeveloped open space (2.75 acres [1.1 ha]) to a developed use. The concrete tarmac area currently occupied by the existing Navy Lodge would be restored to pre-lodge conditions. The Proposed Action represents a small but cumulative loss of open space at the Seaplane Base and Oak Harbor area in general. However, this impact is not considered significant. Since additional units would be provided on base as a result of the Proposed Action, there would be reduced pressure to develop additional private motel units in the Oak Harbor area.

The two other projects considered in the cumulative effects section would not result in additional land use changes since the proposed gas station would replace a recently

decommissioned one that was operated at the same location. The proposed MWR Marina renovations would take place generally within the existing marina area.

The No Action Alternative would retain the current hilltop open space but could result in potential increased pressure to develop non-Federal lands in the Oak Harbor area to meet temporary NASWI-related motel/housing needs.

#### **4.1.2 Climate and Air Quality**

The Proposed Action would have no significant cumulative air quality or climatic effects. Vehicle emissions in the area would be expected to increase slightly as a result of the proposed Navy Lodge, MWR Marina, and gas station projects; however, this increase would be insignificant. Since the proposed gas station would replace an old station, fueling of vehicles is not expected to significantly increase combustion engine emissions in the area. Furthermore, the proposed gas station would merely serve to disperse fueling activity among a greater number of stations in the Oak Harbor area and would not create an attraction of customers since the fuel will be priced comparably with stations off of the Station. Improved fuel pump technology at the proposed gas station and at the proposed expanded MWR Marina may decrease hydrocarbon emissions during refueling activity. Although the number of boats using the MWR Marina would increase above current levels, the increase is not expected to significantly affect air quality in the Oak Harbor and northern Puget Sound regions.

Under the No Action Alternative, cumulative air quality impacts would be reduced slightly since fewer Navy Lodge units would be constructed.

#### **4.1.3 Traffic and Circulation**

To address cumulative effects of the Proposed Action on the transportation environment, potential land use actions in the immediate site vicinity were considered, including a proposed gas station at the Seaplane Base (completion anticipated in 2000) and proposed expansion of the MWR Marina (200 slips, floating pumps, and breakwater).

The proposed gas station is replacing a previous facility on the Seaplane Base which was in operation at the time the traffic counts used in this evaluation were taken. This facility would be used by Naval personnel and their families and sell products at market rates such that it would not attract new trips to the Seaplane Base. As such, all trips associated with this Proposed Action have already been included in the assessment of project conditions as described in Section 3.3. The proposed expanded MWR Marina improvements would slightly increase traffic on Maui Avenue and Coral Sea Avenue. This increased traffic would not substantially affect p.m. peak period traffic levels.

The City of Oak Harbor is currently (December 1998) conducting a study of circulation improvements in the downtown core west of the Seaplane Base. Alternatives address long-term needs to facilitate movement within the downtown, as well as through traffic between SR 20 and areas east of downtown Oak Harbor, including both one-way and

two-way circulation alternatives on Pioneer Way. This study, called the *Oak Harbor Downtown Circulation Study* (KJS 1998), is assessing future transportation needs associated with a potential new hotel and conference center in downtown Oak Harbor, marina expansion at the Seaplane Base of up to 300 new slips, as well as general background traffic growth.

Given these findings, long-term transportation needs and cumulative effects of other potential projects in the area have been addressed in the long range transportation planning programs by the City of Oak Harbor, or were considered in the evaluation of traffic impacts in Section 3.3. As such, the Proposed Action would not have any significant cumulative effect on transportation system needs in the vicinity of the Seaplane Base or on key roadways and intersections in the City of Oak Harbor.

Under the No Action Alternative, cumulative traffic levels at the Seaplane Base would be reduced slightly since fewer Navy Lodge units would be constructed. It is likely that overall traffic level in the vicinity of NASWI would be relatively similar to that under the Proposed Action.

#### **4.1.4 Noise**

The Proposed Action is not expected to generate any significant cumulative noise effects, as mitigation measures would be implemented to reduce short-term construction-related noise. The proposed MWR Marina improvements and new gas station would cause short-term construction-related noise effects. The proposed gas station project and the Proposed Action would be constructed during the same general time period, although given the already high levels of activity at the Seaplane Base, the cumulative construction noise levels from these two projects would be minimal. The proposed MWR Marina improvements would likely occur after the Navy Lodge is operational and, therefore, would not contribute to the cumulative construction noise levels in 1999-2000. Some construction overlap during the potential future addition could occur, depending on the schedule, which is currently unknown. Operationally, the proposed MWR Marina improvements may increase motor boat noise, but this would not affect areas near the proposed Navy Lodge.

Under the No Action Alternative, cumulative effects on noise levels would be reduced slightly since no new Navy Lodge units would be constructed.

#### **4.1.5 Recreation Resources**

The Proposed Action is not expected to have any significant cumulative effects to recreation resources. The combination of a potential Navy Lodge and improved MWR Marina facilities would provide Navy Lodge patrons with improved convenience and access to recreation opportunities. Thus, the two projects would result in no adverse cumulative effects on recreation opportunities. The proposed gas station would not affect recreation resources.

Under the No Action Alternative, no cumulative effects on recreation resources would result.

#### **4.1.6 Cultural Resources**

The Proposed Action is not expected to have any significant cumulative effects on cultural resources. No known on-site archeological resources would be affected by the Proposed Action or the other projects. If subsurface archeological resources are uncovered during construction activities, the Washington SHPO would be consulted and appropriate actions taken. Therefore, no significant cumulative effects are anticipated.

The proposed MWR Marina improvements would occur within the proposed Seaplane Base Historic District (Department of the Navy 1994). This potential project work would primarily be in-water construction. As a result, cumulative impacts would be reduced. Demolition of the previous WWII boathouse at the MWR Marina has already been mitigated as part of an earlier project to expand the MWR Marina (EDAW 1997). The proposed gas station would be constructed just outside of the proposed Historic District, but would not adversely affect historical resources because of its siting.

The proposed 2-story Navy Lodge building would be visible from the proposed Historic District. However, as a result of consultation with SHPO, the Navy will be implementing mitigation measures to minimize the cumulative effect below a level of significance.

The No Action Alternative would have some cumulative effects on the integrity of the proposed Historic District because of the architectural incompatibility of the 24 mobile home units laid out in a zig-zag pattern and situated near the boundary of the proposed Historic District. These 24 mobile home units were intended to be temporary. The Proposed Action would eliminate this impact if implemented.

#### **4.1.7 Aesthetic/Visual Resources**

The Proposed Action is not expected to have any significant cumulative effects on aesthetic/visual resources. The Proposed Action would result in a loss of natural open space (2.75 acres [1.1 ha]) at the proposed hilltop site. Furthermore, the proposed development would be visible from vantage points in Oak Harbor. However, this impact is not considered significant because of the existing development already in the area including many large structures. The proposed gas station and MWR Marina projects would occur in already developed areas and would not adversely affect visual resources.

The No Action Alternative would have a continued cumulative effect to aesthetic/visual resources at Seaplane Base because of the: (1) existing siting of the 24 mobile home units in an irregular zig-zag pattern, (2) openness and lack of vegetation on the flat concrete tarmac, and (3) design and construction of the mobile home units which contrast with the surrounding WWII architecture.

#### **4.1.8 Geology and Soils**

The Proposed Action would result in the development of approximately 2.75 acres (1.1 ha) of land where soils would be disturbed. The proposed gas station would be built in an already disturbed area and would not adversely affect any soils. The proposed MWR Marina improvements would likely disturb marine sediments. Cumulatively, the effects to soils and geology would not be significant due to implementation of mitigation measures for each of these proposed projects.

The No Action Alternative would result in no negative cumulative effects to soil and geology at the Seaplane Base.

#### **4.1.9 Hydrology and Water Quality**

Construction and operation of the proposed Navy Lodge would not significantly increase cumulative turbidity of surface water runoff because of mitigation and the siting of the proposed facility. The proposed gas station and MWR Marina projects have the potential to disturb soils and/or marine sediments, respectively, and could result in short-term increased turbidity. By implementing BMPs, the impacts are not expected to be significant either individually or cumulatively. The proposed MWR Marina improvements would increase boat traffic near Oak Harbor. This could increase the risk of water quality impacts in the Oak Harbor area, although this effect is not likely to be significant. Any hydrologic effects would be effectively mitigated through implementation of the mitigation measures described in this EA.

The No Action Alternative would result in no cumulative effects to water quality or hydrology.

#### **4.1.10 Vegetation and Wildlife Resources**

The Proposed Action would have no significant cumulative effects on vegetation and only short-term effects on wildlife resources. The open space that would be lost to development has little habitat value. As a result, no significant cumulative effects are anticipated.

Construction of the proposed gas station is not likely to affect any wildlife since the site is already heavily developed. The proposed MWR Marina improvements have the potential to temporarily disturb marine fish and wildlife and foraging bald eagles during construction. Since the proposed MWR Marina improvements would likely occur after the Navy Lodge is constructed, the effects would be minimized and no significant cumulative effects are anticipated.

The No Action Alternative would not have any significant long-term cumulative effects on wildlife or fisheries resources, although the proposed MWR Marina improvements have the potential to cause some additional short-term effects to wildlife and marine fish. These adverse effects would be mitigated as necessary.

#### **4.1.11 Environmental Health Hazards**

The Proposed Action and the other two proposed projects would increase traffic slightly, but with mitigation measures would not significantly increase the cumulative environmental health hazards to pedestrians, in particular children. Similarly, although the proposed MWR Marina improvements and the proposed gas station projects would increase the use of petroleum products on the Seaplane Base, these facilities would not represent significant cumulative impacts to environmental health because adequate safeguards and mitigation measures would be implemented. No significant cumulative impacts to children or others are anticipated due to hazards associated with explosives, electromagnetic radiation, or fuels.

The No Action Alternative is not expected to have any significant cumulative effects on environmental health related to children or others.

#### **4.1.12 Environmental Justice**

The Proposed Action is not expected to have any significant cumulative effects on specific minority or low-income communities on Whidbey Island. The Proposed Action would, in fact, benefit lower income families.

The No Action Alternative is not expected to have any significant cumulative effects on specific minority or low-income communities on Whidbey Island.

### **4.2 IRREVERSIBLE OR IRRETRIEVABLE COMMITMENT OF RESOURCES**

Construction and operation of the proposed Navy Lodge would result in an irretrievable and incremental use of energy and material, although such use is not expected to be significant. The Proposed Action would convert 2.75 acres (1.1 ha) of open space to a developed use. All proposed development would remain on Federally managed land.

### **4.3 RELATIONSHIP BETWEEN SHORT-TERM USE AND LONG-TERM PRODUCTIVITY**

The Proposed Action would not significantly alter the manner in which the environment would be used and would not affect the biological productivity of the Oak Harbor area. The proposed project could result in a short-term avoidance of the area by wildlife, and a long-term loss of marginal open space habitat (2.75 acres [1.1 ha]). This habitat, however, is of low quality and would have very little effect on the ecology of the area. Over the long term, habitats adjacent to the proposed Navy Lodge site would continue to provide suitable habitat for all of the identified species that currently occur in this area.

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## 6.0 LIST OF PREPARERS AND DISTRIBUTION LIST

### 6.1 LIST OF PREPARERS

This EA for the Navy Lodge at Seaplane Base, NASWI, Washington, was prepared by a multi-disciplinary team managed by the Department of the Navy, Engineering Field Activity Northwest, Poulsbo, Washington. Contributions to the EA were also made by NEXCOM, NASWI Public Works Department, and NASWI Environmental Affairs Department, Oak Harbor, Washington. EDAW, Inc., Seattle, Washington, a consulting firm under contract to the Navy, compiled and prepared the EA document. EDAW, Inc. was assisted by KJS Associates, Inc., Bellevue, Washington (for traffic resource analysis). Contributions by individuals were subject to revision during product reviews and editing. The following is a list of contributors to this EA.

#### Department of the Navy

Kelly Hall	Engineering Field Activity Northwest, Co-Project Manager, Environmental Planning & Natural Resources Dept.
Kimberly Kler	Engineering Field Activity Northwest, Co-Project Manager, Environmental Planning & Natural Resources Dept.
Kathy Souders	NASWI, Department Head, Environmental Affairs Dept.
Steve Pennix	NASWI, Ecologist, Environmental Affairs Dept.
Shawn Pelowitz	NASWI, Project Manager, Public Works Engineering Dept.

#### EDAW, Inc.

Jill Sterrett	Navy Contract Manager, Vice President
Charles Everett	NEPA Coordinator, Senior Associate
Ron Tressler	EA Project Manager, Associate
Brad Brewster	Planner/Cultural Resource Specialist
Steve Bondi	Environmental Scientist
Peter Carr	Editor, Associate
Kathy Kirby	Graphics, Associate
Kyle Sasaki	Graphics Specialist
Liza MacKinnon	Word Processing
Mary Heim	GIS and AutoCAD Specialist, Associate

**KJS, Inc.**

Mike Read                      Senior Traffic/Transportation Specialist

## **6.2 DISTRIBUTION LIST**

The following is the distribution list for this EA.

### **Federal Elected Officials**

U.S. Senator Slade Gorton  
U.S. Senator Patty Murray  
U.S. Representative Jack Metcalf

### **State Elected Officials**

State Senator Mary Haugen  
State Representative Barry Sehlin  
State Representative David H. Anderson

### **Indian Tribes**

Swinomish Tribal Community  
Samish Tribal Nation

### **Federal Agencies**

U.S. Environmental Protection Agency  
Defense Technical Information Center  
Advisory Council on Historic Preservation  
U.S. Fish and Wildlife Service

### **Washington State Agencies**

Washington State Office of Archaeology and Historic Preservation/SHPO  
Washington State Department of Ecology  
Washington State Department of Fish and Wildlife  
Washington State Department of Natural Resources

### **Local Agencies and Organizations**

Island County Planning Department  
City of Oak Harbor, Planning Department  
Oak Harbor Chamber of Commerce  
Oak Harbor Library

**Appendix A**

**NASWI Lodge 1999 Market Survey**

Lodge Name and Number Whidbey Island 110-430  
1999 MARKET SURVEY

Facility Name Address / Telephone	Miles from Lodge	Summer Double Std Rate	Summer Double Govt Rate	Tax Rate	Winter Double Std Rate	Winter Double Govt Rate	Add Person Charge	Add Eqpt Charge	Kitchen Y/N Charge
ACORN MOTOR INN 8066 HWY 20 O. H. WA. 98277 (675-6646)	1.6	62.00	58.00	7.9%	52/58	48/52		6.00	5.00 Y
AULD HOLLAND INN 5861 HWY 20 O.H. WA 98277 (673-2288)	2.6	55/65	50/60	7.9%	40/42	40/42	5.00 per	5.00	yes... n/a N
BEST WESTERN INN 5691 HWY 20 O.H. WA. 98277 (679-4567)	2.5	109.00	84.00	7.9%	40/42	40/42		10.00	10.00 Y
COACHMAN INN 5563 HWY 20 O.H. WA. 98277 (675-0727)	2.1	69.50	59.50	7.9%	49.50	49.50	no	5.00	Y
QUEEN ANN MOTEL 1204 W. PIONEER WY O.H. WA. 98277 (675-2209)	1.2	54.00	47.00	7.9%	48.00	44.00		5.00	5.00 Y
NORTH WHIDBEY INN 1175 MIDWAY O.H. WA. 98277 (675-5911)	1.2	69.95	64.95	7.9%	49.95	49.95		5.00	5.00 Y 15.00 extra

**Appendix B**

**Correspondence**



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

## **North Pacific Coast Ecoregion**

## Western Washington Office

510 Desmond Drive SE, Suite 102

Lacey, Washington 98503

Phone: (360) 753-9440 Fax: (360) 753-9518

March 10, 1998

Ms. K.A. Souders

## Department of the Navy

**Naval Air Station Whidbey Island  
Oak Harbor, WA 98278-5000**

FWS Reference: 1-3-98-L-0141

Dear Ms. Souders:

This letter is in response to your letter and attached documents regarding the proposed construction and operation of a lodge at the Navy's Seaplane Base, located at Crescent Harbor, Whidbey Island, Washington. The letter was dated February 5, 1998, and received in this office on February 10, 1998.

The Navy determined that the proposed project was not likely to adversely affect the bald eagle (*Haliaeetus leucocephalus*). The U.S. Fish and Wildlife Service concurs that the proposed project is not likely to adversely affect the bald eagle. This concurrence is based on the assumption that, if the nest is occupied, construction practices would adhere to requirements in the Naval Air Station's Bald Eagle Management Plan for activities within 400 meters of a nest. This issue was discussed with Steve Pennix of your staff.

This concludes informal consultation pursuant to Section 7(a)(2) of the Endangered Species Act of 1973, as amended. This project should be re-analyzed if new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not considered in this consultation; if the action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this consultation; and/or, if a new species is listed or critical habitat is designated that may be affected by this project.

If you have further questions about this letter or your responsibilities under the Act, please contact John Grettenberger at (360) 753-6044.

Sincerely,

Nancy J. Gloman  
Nancy J. Gloman

Nancy J. Gloman

## Acting Supervisor

jg/br

c: WDFW, Region 4

WNHP, Olympia

12 MAR 1998

## Chrono

N446



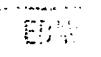
WASHINGTON STATE DEPARTMENT OF  
**Natural Resources**

November 2, 1998

JENNIFER M. BELCHER  
Commissioner of Public Lands

Steve Bondi  
EDAW Inc  
1505 Western Ave - Suite 601  
Seattle WA 98101

- 9



**SUBJECT: EA for Construction of Navy Lodge at Whidbey Island NAS, Oak Harbor  
(T32N R01E S01,12)**

We've searched the Natural Heritage Information System for information on rare plants, high quality wetland ecosystems and high quality terrestrial ecosystems in the vicinity of your project. *Castilleja levisecta* (golden paintbrush), a federally threatened plant species, occurs within Section 12 just south of where we understand the lodge site is to be constructed.

We suggest you assess what activities would accompany the lodge and whether it would lead to increased traffic or visitation to the *Castilleja levisecta* vicinity. If so, protective measures for the *Castilleja levisecta* population should be identified. Also consider that long term recovery for *Castilleja levisecta* may involve expanding this population northward - which may create even greater conflict.

We urge you to contact Steve Pennix at the Whidbey Island Naval Air Station for more information on this rare plant population. He can be reached at NAS Whidbey Island, Environmental Affairs Department, 1100 West Lexington St, Oak Harbor WA 98278.

I have enclosed a map showing the location of *Castilleja levisecta* at this site and a fact sheet on this species for your information. If you have any questions, please do not hesitate to call me at (360) 902-1667.

Sincerely,

Sandy Swope Moody, Environmental Coordinator  
Washington Natural Heritage Program

Enclosures



State of Washington  
**DEPARTMENT OF FISH AND WILDLIFE**

Mailing Address: 600 Capitol Way N, Olympia, WA 98501-1091 - (360) 902-2200; TDD (360) 902-2207  
Main Office Location: Natural Resources Building, 1111 Washington Street SE, Olympia, WA

Date: Oct 23, 1998

Dear Habitats and Species Requester:

Enclosed are the products you requested from the Washington Department of Fish and Wildlife (WDFW) concerning the agency's priority habitats and species. This package may also contain documentation to help you understand and use these products.

These products only include information that WDFW maintains in a computer database. They are not an attempt to provide you with an official agency response as to the impacts of your project on fish and wildlife, nor are they designed to provide you with guidance on interpreting this information and determining how to proceed in consideration of fish and wildlife. These products only document the location of important fish and wildlife resources to the best of our knowledge. It is important to note that priority habitats or species may occur on the ground in areas not currently known to WDFW biologists, or in areas for which comprehensive surveys have not been conducted. Site-specific surveys are frequently necessary to rule out the presence of priority habitats or species.

Your project may require further field inspection or you may need to contact our field biologists or others in WDFW to assist you in interpreting and applying this information. Generally, for assistance on a specific project, you should contact the WDFW Habitat Program Manager for your county and ask for the area habitat biologist for your project area. Refer to the enclosed directory for those contacts.

Please note that sections potentially impacted by spotted owl management concerns are displayed on the 1:24,000 scale standard map products. If specific details on spotted owl site centers are required they must be requested separately.

These products are designed for users external to the forest practice permit process and as such does not reflect all the information pertinent to forest practice review. The Forest Practice Rules adopted August 22, 1997 by the Forest Practice Board and administered by the Washington Department of Natural Resources require forest practice applications to be screened against marbled murrelet detection areas and detection sections. Marbled murrelet detection locations are included in the standard priority habitats and species products, but the detection areas and detection sections are not included. If your project is affected by Forest Practice Regulations, you should specially request murrelet detection areas.

WDFW updates this information as additional data become available. Because fish and wildlife species are mobile and because priority habitats and species information changes, project reviews for fish and wildlife should not rest solely on mapped information. Instead, they should also consider new information gathered from current field investigations. Remember, priority habitats and species information can only show that a species or habitat type is present, they cannot show that a species or habitat type is not present. These products should not be used for future projects. Please obtain updates rather than use outdated information.

## **WASHINGTON DEPARTMENT OF FISH AND WILDLIFE REGIONAL HABITAT PROGRAM MANAGER CONTACTS**

**For assistance with Priority Habitats and Species Information contact a regional habitat program manager and they will direct your questions to a biologist.**

### **County project is in...**

Asotin, Columbia, Ferry, Garfield Lincoln,  
Pend Oreille, Spokane, Stevens, Walla Walla,  
Whitman

Adams, Chelan, Douglas, Grant, Okanogan

Benton, Franklin, Kittitas, Yakima

Island, King, San Juan, Skagit, Snohomish,  
Whatcom

Clark, Cowlitz, Klickitat, Lewis, Skamania,  
Wahkiakum

Clallam, Grays Harbor, Jefferson, Kitsap, Mason,  
Pacific, Pierce, Thurston

### **Contact...**

John Andrews  
8702 North Division Street  
Spokane, WA 99218-1199  
Phone: (509) 456-4082

Tracy Lloyd  
1550 Alder Street NW  
Ephrata, WA 98823-9699  
Phone: (509) 754-4624

Ted Clausing  
1701 24th Avenue  
Yakima, WA 98902-5720  
Phone: (509) 575-2740

Ted Muller  
16018 Mill Creek Blvd.  
Mill Creek, WA 98012-1296  
Phone: (206) 775-1311

Rich Costello  
2108 Grand Blvd.  
Vancouver, WA 98661  
Phone: (360) 696-6211

Steve Keller  
48 Devonshire Road  
Montesano, WA 98563-9618  
Phone: (360) 249-4628

WASHINGTON DEPARTMENT OF FISH AND WILDLIFE - PRIORITY HABITATS AND SPECIES

PHS POLYGON DATAFORM LIST - IN THE VICINITY  
OF T32R01E SECTION 2

PHSPOLY#	FORMLIST	PHSLIST
3	902732	
	WET*-	
5	902732	
	WET*-	
6	902542-902750	
	WET*-WAFO*RC-	
7	902542-902750	
	WET*-WAFO*RC-	
8	900894	
	HALE*B-	
9	902732	
	WET*-	
10	902732	
	WET*-	
11	902732	
	WET*-	
12	900894-904754	
	HALE*B-ESTUR*-	
13	904754	
	ESTUR*-	
14	902732	
	WET*-	
15	903610-904754	
	HALE*B-ESTUR*-	
16	903610	
	HALE*B-	
17	903610	
	HALE*B-	
18	900894-904776	
	HALE*B-CLIFF*-	
19	902732-903610	
	WET*-HALE*B-	
20	900894-904776	
	HALE*B-CLIFF*-	
21	903606	
	WET*-	
22	904754	
	ESTUR*-	
23	902732	
	WET*-	
24	902732	
	WET*-	
25	902732	
	WET*-	
26	904776	
	CLIFF*-	
27	904754	
	ESTUR*-	
28	903610	
	HALE*B-	
29	900894-904776	
	HALE*B-CLIFF*-	
30	902732	
	WET*-	
31	902732	
	WET*-	
32	904776	
	CLIFF*-	
34	902732	
	WET*-	

PHS POLYGON SPECIES AND HABITAT LIST

EOFORM	EOCODE	CRIT	COMMON NAME	USE CRITERIA
900,894	HALE	B	BALD EAGLE	BREEDING OCCURRENCE
902,542	WET		WETLANDS	
902,732	WET		WETLANDS	
902,750	WAFO	RC	WATERFOWL CONCENTRATIONS	REGULAR CONCENTRATION
903,606	WET		WETLANDS	
903,610	HALE	B	BALD EAGLE	BREEDING OCCURRENCE
904,754	ESTUR		ESTURINE ZONE	
904,776	CLIFF		CLIFFS/BLUFFS	

Form number 900000 indicates presence of PHS is unknown or the area was not mapped. Form numbers 909998, 909997, or 909996 indicate compilation errors.

WILDLIFE HERITAGE POINT DATA - IN THE VICINITY  
OF T32R01E SECTION 2

QUADPT #	SPPCODE	CRIT	COMMON NAME	USE CRITERIA
----------	---------	------	-------------	--------------

4812236017 HALE B BALD EAGLE  
4812236013 HALE B BALD EAGLE

BREEDING OCCURRENCE  
BREEDING OCCURRENCE

quadpt: 4812236017 sppcode: HALE crit: B name: BALD EAGLE  
year: 1996 class: SA accuracy: C state status: fed status:  
township - range - section: T32N R01E S41 NE  
general description:  
BALD EAGLE NEST IN TOP OF D-FIR, 50 METERS NORTH OF WATER TANK.

quadpt: 4812236013 sppcode: HALE crit: B name: BALD EAGLE  
year: 1994 class: SA accuracy: C state status: fed status:  
township - range - section: T32N R01E S10 SWOFNE  
general description:  
BALD EAGLE NEST LOCATED IN BROKEN TOP SECOND GROWTH FRI, NEST IN TOP 150 FT E OF  
HIGHWAY 20 ON WHIDBEY ISLAND.

Note:

Spotted owls and marbled murrelets are displayed on the accompanying map  
but information for them are not included in this report.

WASHINGTON DEPT OF FISH AND WILDLIFE

PRIORITY HABITATS AND SPECIES  
Tabular Data Report - General Information - Draft  
10/21/1998

form: 900,894 species/habitat: HALE species use: B season: SU accuracy: 1  
sitename: POLNELL POINT BALD EAGLE TERRITORY  
general description:  
EAGLE TERRITORY IDENTIFIED IN 1975, OCCUPIED IN 1989, PRODUCTIVE IN 1988.

source: WATSON, JIM, WDW, PERSONAL OBSERVATIONS.  
date: 06 90 code: NEST  
synopsis:  
BREEDING SURVEYS - GROUND OBSERVATIONS.

source: KLOPE, MATT NAVY BIOLOGIST  
date: 06 90 code: PROF  
synopsis:  
MANAGEMENT PLAN PREPARED BY USFWS ON FILE.

form: 902,542 species/habitat: WET species use: season: accuracy: 1  
sitename: WHIDBEY ISLAND WETLANDS NEAR CRESCENT HARBOR.  
general description:  
SCRUB-SHRUB, FORESTED, EMERGENT, AND OPEN-WATER WETLANDS ON WHIDBEY ISLAND IN THE VICINITY OF CRESCENT HARBOR.

source: NATIONAL WETLANDS INVENTORY-USFWS  
date: 87 code: GSMAP  
synopsis:

form: 902,732 species/habitat: WET species use: season: accuracy: 1  
sitename: WHIDBEY ISLAND WETLANDS NEAR OAK HARBOR.  
general description:  
EMERGENT, SCRUB-SHRUB, FORESTED, AND OPEN-WATER WETLANDS ON WHIDBEY ISLAND IN THE VICINITY OF OAK HARBOR.

source: NATIONAL WETLANDS INVENTORY-USFWS  
date: 87 code: GSMAP  
synopsis:

WASHINGTON DEPT OF FISH AND WILDLIFE

PRIORITY HABITATS AND SPECIES  
Tabular Data Report - General Information - Draft  
10/21/1998

form: 902,750 species/habitat: WAFO species use: RC season: WS F accuracy: 1  
sitename: WHIDBY/CAMANO WATERFOWL HABITAT.

general description:

LAKES AND MARSHES IN ISLAND COUNTY THAT PROVIDE IMPORTANT FOOD RESOURCES AND REFUGIA FOR WATERFOWL, SHOREBIRDS, AND MARINE BIRDS.

source: LESCHNER, LORA, WDW; PERSONAL OBSERVATIONS.

date: 90 code: PROF

synopsis:

FREQUENT VISITS TO THESE SITES TO SURVEY WATERFOWL.

source: KRAEMER, CURT, WDW; PERSONAL OBSERVATIONS.

date: 90 code: PROF

synopsis:

FREQUENT SITE VISITS TO SURVEY LAKES AND CHECK FISHERMEN.

form: 903,606 species/habitat: WET species use: season: accuracy: 1  
sitename: REGION 4 SALTWATER WETLANDS.

general description:

PUGET SOUND COASTAL SALT MARSHES, SALT MEADOWS, AND BRACKISH MARSHES.

source: WASHINGTON STATE COASTAL ZONE ATLAS, D.O.E., 1979.

date: 0579 code: CZA

synopsis:

D.O.E. SPONSORED MAPPING OF COASTAL FEATURES.

source: TED MULLER WDFW

date: 05 93 code: MAP

synopsis:

MAP EDIT. DELETE DUPLICATE REFERENCES.

form: 903,610 species/habitat: HALE species use: B season: SU accuracy: 1  
sitename: OAK HARBOR

general description:

EAGLE TERRITORY IDENTIFIED IN 1991 ACTIVE AND PRODUCTIVE

source: WATSON, JIM 1991 PERSONAL OBSERVATIONS

date: 06 91 code: NEST

synopsis:

BREEDING SURVEYS

WASHINGTON DEPT OF FISH AND WILDLIFE

PRIORITY HABITATS AND SPECIES  
Tabular Data Report - General Information - Draft  
10/21/1998

form: 904,754 species/habitat: ESTUR species use: season: accuracy: 1  
sitename:

general description:

BAY/ESTUARY-COASTAL ZONE ATLAS CODE 54-MODERATELY PROTECTED MARINE EMBAYMENTS WITH FREE CONNECTIONS WITH THE OPEN SEA. BLUFFS, REACH SUBSTRATES MARSHES, EELGRASS BEDS, AND OTHER INTERTIDAL HABITATS ARE ASSOCIATED WITH IT.

source: COASTAL ZONE ATLAS OF WASHINGTON. STATE OF WASHINGTON DEPT OF ECOLOGY.

date: 78 code: CZA

synopsis:

form: 904,776 species/habitat: CLIFF species use: season: accuracy: 1  
sitename:

general description:

BLUFF-COASTAL ZONE ATLAS OF WASHINGTON-NONVEGETATED STEEP TO MODERATE SLOPES OF VARYING SUBSTRATE. BLUFFS OFTEN SERVE AS BUFFER BETWEEN DEVELOPED UPLANDS AND WETLANDS AT THEIR BASE CREATING IMPORTANT STRIPS OF COASTAL HABITAT. CZA CODE 76.

source: COASTAL ZONE ATLAS OF WASHINGTON. STATE OF WASHINGTON DEPT OF ECOLOGY.

date: 78 code: CZA

synopsis:



STATE OF WASHINGTON

DEPARTMENT OF COMMUNITY, TRADE AND ECONOMIC DEVELOPMENT  
Office of Archaeology and Historic Preservation

420 Golf Club Road SE, Suite 201, Lacey • PO Box 48343 • Olympia, Washington 98504-8343 • (360) 407-0752

Fax Number (360) 407-6217  
February 10, 1998

Ms. K. A. Souders  
Environmental Affairs Director  
Naval Station Whidbey Island  
Oak Harbor, Washington 98278-5000

In future correspondence, please refer to:  
Log: 021098-04-USN  
Re: NASWI, Seaplane Base:  
Demolish Lodge Trailers/  
Construct New Lodge

Dear Ms. Souders:

The above referenced project proposal has been reviewed under provisions of Section 106 of the National Historic Preservation Act of 1966 and 36 CFR 800.

In our view demolition and removal of the existing non-historic lodge trailers will have no adverse effect on the National Register eligible Seaplane Base. We also believe that construction of a new lodge 400 feet outside the boundaries of the district will have no adverse effect. However, to avoid the potential for adverse effect, we request the opportunity to review and comment on design drawings for the new lodge when they are developed.

If you have any questions regarding our review of this proposal, please contact me at (360) 407-0768.

Sincerely,

A handwritten signature in black ink, appearing to read "Stephen A. Mathison".

Stephen A. Mathison  
Restoration Designer

12 FEB 1998

Chrono  
N 4461

SAM:sam

NAS WHI PUBLIC WORKS, ID:3602571472

DEC 17 '98 15:21 No.004 P.01

Cc: TED VanZANDEN@Supply@Whidbey, Robert M Duthiam@Supply@Whidbey

From: Steve R Rothboack@PW@Whidbey

Certify: Y

Subject: NAVY LODGE

Date: Tuesday, February 3, 1998 at 7:50:28 am PST

Attached: None

Ed, thanks for your Navy Lodge comments dated 14 Jan 98.

You stated that the proposed site was not recommended because of proximity to the fuel farms and to the paint/body shop/media blasting facility (dumpster) at building 49.

Supply folks commented there is a possibility, during certain wind conditions, that fuel could be smelled at this site, however my understanding is that Supply does not feel this would be a significant problem and they are not recommending against use of the proposed site.

Regarding use of building 49, people commented during our meeting that the operation was conducted inside an enclosed building and therefore questioned whether this activity could affect the proposed Navy Lodge.

Could you reference any regulations that relate to your concerns? Or could you elaborate as to specifically why the site is inappropriate?

Thanks, R/Steve

STEVE:

2/3/98

OSH CONCERNs HAVE BEEN CLARIFIED BY FUEL AND PERSONNEL WITH  
KNOWLEDGE OF THE OPERATIONS WHICH TAKE PLACE IN BLDG.49.  
NO FURTHER OSH CONCERNs/COMMENTS AT THIS POINT AS DISCUSSED  
IN OUR PHONE CON. THIS DATE.

  
ED BAUM  
SAFETY SPECIALIST

PROJECT SITE APPROVAL NAVY LODGE			SHEET DATE 1/14/98
LOCATION EAST & WEST INTERSECTION CORAL SEA DRIVE			REVIEWER ED BAUM

ARCHITECTURAL	MECHANICAL	DESIGN ANALYSIS	PRE-DESIGN
STRUCTURAL	ELECTRICAL	CONSTRUCTION	PRELIMINARY
CIVIL	SPECS & ESTIMATES	SITE APPROVAL GENERAL	FINAL

DWG. NO. OR PAR. NO.	ITEM NO.	COMMENT (Make general comments or list short of comments)	REVIEW ACTION (Indicate reasons where significant)
		<ul style="list-style-type: none"> <li>* LOCATION IS CONVIENT TO EXCHANGE AND COMMISSARY WITH A GREAT VIEW FOR PATRONS <u>HOWEVER</u> MY CONCERN'S WOULD BE THE FACT THAT A HIGH DENSITY BUILDING OF THIS TYPE REALLY SHOULD NOT BE LOCATED BETWEEN TWO(2) FUEL FARMS AND THE PAINT/BODY SHOP/MEDIA BLASTING FACILITY (DUMPSTERS) (BLDG.49)</li> <li>* DUE TO THE ABOVE MENTIONED REASONS THIS SITE IS NOT RECOMMENDED BY THE OSH OFFICE.</li> </ul>	

  
 ED BAUM  
 SAFETY SPECIALIST



STATE OF WASHINGTON

DEPARTMENT OF COMMUNITY, TRADE AND ECONOMIC DEVELOPMENT  
Office of Archaeology and Historic Preservation

420 Golf Club Road SE, Suite 201, Lacey • PO Box 48343 • Olympia, Washington 98504-8343 • (360) 407-0752  
Fax Number (360) 407-6217

May 10, 1999

Ms. K. A. Souders  
Environmental Affairs Director  
Naval Air Station Whidbey Island  
Oak harbor, Washington 98278-5000

Log: 021098-04-USN  
Re: NASWI, Seaplane Base H. D.,  
Navy Lodge:  
Remove Navy Lodge Trailers,  
Construct New Navy Lodge Bldg.

Dear Ms. Souders:

Thank you for submitting design drawings for construction of a new Navy Lodge facility south of the National Register eligible Seaplane Base Historic District at Whidbey Island Naval Air Station. The project has been reviewed on behalf of the State Historic Preservation Officer under provisions of Section 106 of the National Historic Preservation Act of 1966 and 36 CFR 800.

In our view, construction of the new facility will have no adverse effect on the historic character of the nearby eligible district.

If I may be of any further assistance, please contact me at (360) 407-0768.

Sincerely,

A handwritten signature in black ink that reads "Stephen A. Mathison".

Stephen A. Mathison  
Historical Architect

SAM:sam





DEPARTMENT OF THE NAVY

NAVAL AIR STATION WHIDBEY ISLAND  
OAK HARBOR, WASHINGTON 98278-5000

11013

Ser N01J/

0 2 1 3

FEB 2 1999

Ms. Susan Franke  
Executive Director  
Oak Harbor Chamber of Commerce  
P.O. Box 883  
Oak Harbor, WA 98277

Dear Ms. Franke:

Naval Air Station Whidbey Island is planning for the construction of a new Navy Lodge to replace the present modular unit complex located on board the Seaplane Base. Navy Lodges are facilities used primarily to provide active duty military personnel, when accompanied by dependents, with inexpensive, temporary accommodations while in transit between duty stations. Military personnel on leave, reservists, and retired military personnel are also eligible to patronize these facilities on a space available basis.

Although the exact design and size of the proposed facility remains under review, it is expected to be similar to Navy Lodges currently operating at other Pacific Northwest naval installations, with approximately 50 units. No taxpayer dollars would be used on the project, as all construction costs would be paid from nonappropriated funds. The construction of this new lodge would add increased job opportunities for the community.

This letter is intended to notify concerned parties of our intention and the purpose and scope of the proposed Navy Lodge. Because of the restrictions on its use, it is not anticipated that the facility would have any significant adverse impact upon the commercial innkeepers in the Oak Harbor area.

We would welcome any comments you may have on our proposal.

Sincerely,

L. G. SALTER  
Captain, U.S. Navy  
Commanding Officer

From: Bernard Iliff on 04/09/99 11:06 AM EDT  
To: Jim Kennedy/HQ/NEXNET, NEX WHIDBEY-GM/WC/NEXNET, William Taylor  
cc: DISTRICT MANAGER-NORTHWEST/WC/NEXNET, CAPT John Dunbar, Capt Jack Prpich, Pamela R. Wheeler  
Subject: Re[2]: NAVY LODGE WHIDBEY ISLAND

Bob/Bill

Concur! Let's proceed. Costs need to be part of overall construction project. Suggest taking moneys out of contingency funding already in the project number rather increasing overall budgeted cost of project.

Bernie

Reply Separator

---

Subject: Re: NAVY LODGE WHIDBEY ISLAND  
Author: William Taylor at HQ2  
Date: 4/8/99 10:07 PM

Bernie,

I concur with the below. Seeing how the base paid for the EA and they are providing the labor free of charge - I don't think they are asking too much for us to provide the materials. I also think it would go a long way towards preserving our good will with the CO on this project.

vr,  
Bill Taylor

Reply Separator

---

Subject: NAVY LODGE WHIDBEY ISLAND  
Author: NEX WHIDBEY-GM at NEXNET  
Date: 4/8/99 3:16 PM

Bernie/Bill,

Based upon my last conversation with Jim Kennedy, I requested that the Public Works Officer provide additional input on the sidewalk and tarmac issues holding up the Environmental Assessment. In just speaking with the PWO with regard to the material costs associated with filling the landscaped portions of the tarmac and with the construction of the sidewalk, a cost estimate of approx. \$30K for materials was provided. Assumptions used by PW were a 5' sidewalk and filling tarmac to depth of existing concrete in surrounding areas. Costs could fluctuate based upon the final design of the sidewalk, but nothing that I would expect to be significant. He previously stated that Seabees would provide all labor for both issues including earth work necessary for the sidewalk. Given the existing APF funding constraints at the local Base level, the PWO has already indicated that there zero chance in getting these costs covered by the Air Station.

Given that the \$30K expense is not very significant in the scope of this project, I strongly recommend that we fund, finalize the EA and press to award this contract.

Please let me know your thoughts.

Bob Bishop

To: Dave W Price@PW@Whidbey  
From: Steve L Penix@NAS\_ENV@Whidbey  
Certify: N  
Subject: Fwd: ... no subject ...  
Date: Thursday, April 29, 1999 at 1:48:47 pm PDT  
Attached: None

- - - - - Original Message - - - - -

To: Steve L Penix@NAS\_ENV@Whidbey  
Cc: iSMTP1@Whidbey 976C@Servers["Kurtz, Mike A."  
<kurtzm@naswi.navy.mil>], iSMTP1@Whidbey  
976C@Servers["Mulcahy, Francis S."  
<mulcahyf@naswi.navy.mil>], Will D Aldridge@PW@Whidbey,  
KATHRYN A SOUDERS@NAS\_ENV@Whidbey  
From: "Parker, Robert F." <parkerr@naswi.navy.mil>  
Date: Thursday, April 29, 1999 at 11:42:22 am PDT  
Attached: None

Steve,

Regarding the issues of the sidewalk and the repaving of the area used for the temp NEX Lodge as related to the EA for the new Navy Lodge project:

The SeaBees of CBU 417 will perform the work including:

-- installation of a sidewalk from the new lodge to the area of the existing commissary and  
-- repaving various areas of the tarmac used for the temp lodge.

The NEX has agreed to buy the materials for the work. The work will be performed late in the project. The sidewalk will be done after all other site work and utilities are installed and the paving will be done once the NEX has disposed of the existing temp units.

If you have any questions pls call me.

R, CDR Parker

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## **Appendix C**

### **Air Quality Modeling**

## APPENDIX C

### AIR QUALITY MODELING

MOBILE5b (14-Sep-96)

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-M170 Warning:

+ Exhaust emissions for gasoline fueled vehicles beginning in 1995 have been reduced as a result of Gasoline Detergent Additive Regulations (1994).

-M 90 Warning:

+ Period 1 RVP reset to 6.5

-M 90 Warning:

+ Period 2 RVP reset to 6.5

-M154 Warning:

+ Refueling emissions for LDGV and LDGT after 1998 model year have been reduced as a result of the Onboard Refueling Vapor Recovery Regulations (1994).

0YEAR2000NAVYLOGD

Minimum Temp: 41. (F) Maximum Temp: 58. (F)

Period 1 RVP: 6.5 Period 2 RVP: 6.5 Period 2 Yr: 2001

0VOC HC emission factors include evaporative HC emission factors.

0

0Emission factors are as of Jan. 1st of the indicated calendar year.

0Cal. Year: 2000 Region: Low Altitude: 500. Ft.

I/M Program: No Ambient Temp: 53.8 / 53.8 / 53.8 F

Anti-tam. Program: No Operating Mode: 20.6 / 27.3 / 20.6

Reformulated Gas: No

0Veh. Type: LDGV LDGT1 LDGT2 LDGT HDGV LDDV LDDT HDDV MC All Veh

+  
Veh. Spd.: 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0  
VMT Mix: 0.616 0.191 0.086 0.031 0.002 0.001 0.068 0.006 0

Composite Emission Factors (Gm/Mile)

VOC	HC	2.12	2.65	3.64	2.95	4.10	0.64	0.86	2.20	2.43	2.41
Exhst CO:		25.87	30.74	41.10	33.95	55.74	1.56	1.73	11.34	24.22	27.97
Exhst NOX:		1.60	1.87	2.56	2.08	5.03	1.36	1.50	11.49	0.93	2.50

0Idle Emission Factors (Gm/Hr)

VOCId HC: 23.93 30.55 44.47 34.87

<b>PROJECT-GENERATED MOBILE SOURCE EMISSIONS</b>			
POLLUTANT	TRIP LENGTH (Miles/Day)	EMISSION FACTOR (Gm/Mile)	TOTAL DAILY (lbs/Day)
VOC HC	5,200	2.41	27.6
NOX	5,200	2.50	28.7

**ASSUMPTIONS:**

**TRIP LENGTH**

ASSUMES NET INCREASE OF 400 TRIPS PER DAY AND AVERAGE TRIP LENGTH OF 13 MILES/TRIP BASED ON PROJECT TRIP DISTRIBUTION OF:

20 PERCENT TO NORTH WHIDBEY ISLAND(40 MILES/TRIP)

30 PERCENT TO AULT FIELD NASWI FACILITIES(10 MILES/TRIP)

40 PERCENT TO CITY OF OAK HARBOR(3 MILES/TRIP)

10 PERCENT TO SOUTH WHIDBEY ISLAND AND WESTERN OAK HARBOR (5 MILES/TRIP)

**EMISSION FACTORS**

ASSUMES NO ANTI-TAMPERING PROGRAM OR REFORMULATED GASOLINE.

INCLUDES EVAPORATIVE HC EMISSION FACTORS. BASED ON MINIMUM TEMP OF 41.(F) AND MAXIMUM TEMP OF 58.(F).

NASWI NAVY LODGE EA--NET INCREASE IN ADT

400

DESTINATION	% TRIP DISTRIBUTION*	TOTAL TRIPS	ESTIMATED TRIP DISTANCE	TOTAL MILES
NORTH WHIDBEY/OFF-ISLAND	0.2	80	40	3200
NASWI FACILITIES	0.3	120	10	1200
CITY OF OAK HARBOR	0.4	160	3	480
SOUTH WHIDBEY ISLAND/WESTERN OAK HARBOR	0.1	40	5	200
<b>TOTAL MILES</b>				<b>5080</b>
<b>AVERAGE TRIP LENGTH</b>		<b>12.7</b>		

**NOTE:** To be conservative, emissions were calculated assuming an average trip length of 13 miles/trip multiplied by a total net increase of 400 trips (5,200 miles) rather than the estimated total mileage by destination (5,080 miles).

\*Obtained from traffic report.

## **Appendix D**

### **Acoustic Fundamentals**

## Appendix D

### Acoustic Fundamentals

Noise is often defined as unwanted sound. Sound is a mechanical form of radiant energy transmitted by pressure waves in the air. It is characterized by two parameters: amplitude (loudness) and frequency (tone).

#### Amplitude

Amplitude is the difference between ambient air pressure and the peak pressure of the sound wave. Amplitude is measured in decibels (dB) on a logarithmic scale. For example, a 10 dB sound is 10 times the pressure difference of a 0 dB sound; a 20 dB sound is 100 times the pressure difference of a 0 dB sound. Another feature of the decibel scale is the way in which sound amplitudes from multiple sources add together. A 65 dB source of sound, such as a truck, when joined by another 65 dB source results in a sound amplitude of 68 dB, not 130 dB (i.e., doubling the source strength increases the sound pressure by 3 dB). Amplitude is interpreted by the ear as corresponding to different degrees of loudness. Laboratory measurements correlate a 10 dB increase in amplitude with a perceived doubling of loudness and establish a 3 dB change in amplitude as the minimum audible difference perceptible to the average person. A 3 dB increase in amplitude typically requires a doubling of the noise source. For instance, a 3 dB increase in sound typically requires a doubling of motor vehicle traffic.

#### Frequency

Frequency is the number of fluctuations of the pressure wave per second. The unit of frequency is the Hertz (Hz). One Hz equals one cycle per second. The human ear is not equally sensitive to sound of different frequencies. Sound waves below 16 Hz or above 20,000 Hz cannot be heard at all, and the ear is more sensitive to sound in the higher portion of this range than in the lower. To approximate this sensitivity, environmental sound is usually measured in A-weighted decibels (dBA). On this scale, the normal range of human hearing extends from about 10 dBA to about 140 dBA.

#### Noise Descriptors

The intensity of environmental noise fluctuates over time, and several descriptors of time-averaged noise levels are used. Three most commonly used are  $L_{eq}$ ,  $L_{dn}$  and  $L_{max}$ . The energy equivalent noise level,  $L_{eq}$ , is a measure of the average energy content (intensity) of noise over any given period of time. Many communities use 24-hour descriptors of noise levels to regulate noise. The day-night average noise level,  $L_{dn}$ , is the 24-hour average of the noise intensity, with a 10 dBA "penalty" added for nighttime noise (10:00 PM to 7:00 AM) to account for the greater sensitivity to noise during this period. The maximum noise level,  $L_{max}$ , is often used to characterize instantaneous noise levels occurring over a period of time.

#### Characteristics of Sound Propagation and Attenuation

Noise can be generated by a number of sources, including mobile sources, such as automobiles, trucks and airplanes, and stationary sources, such as construction sites, machinery, and industrial operations. Noise generated by mobile sources typically attenuates at a rate between 3.0 to 4.5 dBA per doubling of distance. The rate depends on the ground surface and the number or type of objects between the noise source and the receiver. Hard and flat surfaces, such as concrete or asphalt, have an attenuation rate of 3.0 dBA per doubling of distance. Soft surfaces, such as uneven or vegetated terrain, have an attenuation rate of about 4.5 dBA per doubling of distance. Noise generated by stationary sources typically attenuate at a rate between 6.0 to about 7.5 dBA per doubling of distance.

Sound levels can be reduced by placing barriers between the noise source and the receiver. In general, barriers contribute to decreasing noise levels only when the structure breaks the "line of sight" between the source and the receiver. Buildings, concrete walls, and berms can all act as effective noise barriers. Wooden fences or broad areas of dense foliage can also reduce noise, but are less effective than solid barriers.

### Human Response to Noise

The human response to environmental noise is subjective and varies considerably from individual to individual. Noise in the community has often been cited as a health problem, not in terms of actual physiological damage, such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from interference with human activities, including sleep, speech, recreation, and tasks demanding concentration or coordination. Hearing loss can occur at the highest noise intensity levels. When community noise interferes with human activities or contributes to stress, public annoyance with the noise source increases. The acceptability of noise and the threat to public well-being are the basis for land use planning policies preventing exposure to excessive community noise levels.

#### Sources:

U.S. Department of Transportation, Federal Highway Administration. June 1995. *Highway Traffic Noise Analysis and Abatement Policy and Guidance*.

U.S. Department of Transportation, Federal Highway Administration. September 1980. *Noise Fundamentals Training Document, Highway Noise Fundamentals*.